

The Petri Dish

- **Important Dates**
- **July Webinar Recap**
- **Welcome to New Fellows**
- **RADAAR Survey and Workshop Summary**

We are always looking for stories from Fellows and opportunities to share knowledge. If you have a story or articles you'd like featured in a future newsletter, please email us!



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Welcome

Welcome to the July edition of the Petri Dish and an especially warm welcome to our new Policy and Cohort II Professional Fellows from Ghana, Kenya and Nigeria.

It has been very interesting this month to read the quarterly monitoring reports and see how Fellowship activities are maturing. There has been a noted shift in the amount of teaching, coaching and mentoring by the Fellows of others and this is excellent to see. Much of this has taken place in countries where there are still COVID-19 related restrictions and the efforts the Fellows have made is commendable.

The presentation at the July webinar given by Professor Ben Howden from the Doherty Institute was fascinating and right on topic for many of the Fellows. His talk answered many of the questions that I often hear asked and Ben presented us with great examples to illustrate them. If you were not able to attend the webinar, I strongly suggest that you pick up the recording and then read the questions and answers section in this issue. It will be particularly helpful for those Fellows who are preparing their workplans or are in the early stages of activities and want to know about genomics but are not sure whether or not it will help them. Our thanks to Ben for a great session.

To conclude this issue we have some feedback from Satyajit Sarkar and team about the RADAAR survey on AMR policy, advocacy and communication that many of you took part in. Satya presents some interesting 'snap polls' taken at the three regional workshops that resulted from the survey and I am sure there will be more information to come.

Best wishes,

Eileen Chappell

Important Dates

August Fellows' Webinar – Wednesday 4th August at 08:30-09:30 BST (UTC+01:00) - The August webinar will feature a presentation from Tanja Kuchenmüller on “*Translating evidence into policy – the WHO Evidence-informed Policy Network*”.

Tanja is unit head for Evidence to Policy and Impact, Research for Health - Science Division at the World Health Organization. Invitation emails have been sent to Fellows and mentors in advance. If you have not yet received this, please email FlemingFellowshipScheme@mottmac.com.

Save the Date: 2021 Fleming Fellows Symposium – Wednesday 10th - Thursday 11th November - Following the success of the inaugural Fellows Symposium, we are once again hosting a two-day event for Fellows and Host Institution teams to virtually meet, connect and share ideas.

The themes of this year's Symposium will be

- **Impact**
- **Sustainability**
- **Solutions**

In addition to panel discussions, there will be speed poster presentations and guided group discussions, as well as highlights on Policy Fellows, Collaborative Projects and Fellow-Mentor partnerships. There will also be dedicated time for networking and meeting Fellows from different regions and mentors from other Host Institutions.

More information, including the programme will be circulated shortly. A registration form will also be shared where you can raise your interest in being part of the programme as a speaker, chair or presenter. If you have ideas or questions on the Symposium, please email

FlemingFellowshipScheme@mottmac.com.

ARE YOU ON THE FLEMING FUND MAILING LIST?

The Fleming Fund sends out monthly newsletters with more information on external events and achievements from across the programme, including Country and Regional Grants.

If you are not receiving these emails, you can sign up using [THIS FORM](#).

July Webinar Q&A

The July Fellows Webinar included a presentation from Ben Howden at the Doherty Institute in Melbourne, Australia. The presentation was on “Pathogen genomics for public health surveillance of infectious diseases and AMR ” with several examples from the Fellows mentored by the Doherty Institute. Following his talk, Fellows had the chance to ask questions which are answered below.

Thank you, Prof Ben Howden for your nice presentation. My question is whether WGS can replace traditional phenotypic antibiotic sensitivity testing (AST)?

Ben: Currently, the evidence does not support widespread use of WGS to replace routine traditional AST in guiding clinical decision making. It can, however, complement phenotypic methods by adding information on genetic determinants and mechanisms of AMR and factors that facilitate their transmission in microbial populations.

The existing advantage of phenotypic testing compared with WGS, is that phenotypic testing will detect new resistance mechanisms or resistance caused by point mutations that might be missed using an entirely genetic approach. While WGS data can be used to verify the identity of AMR mechanisms, it cannot, as yet, be used to quantify the level of phenotypic AMR, as WGS-based analyses are not able to produce an inferred MIC or zone diameter and the presence of a resistance gene does not necessarily assure sufficiently high expression to produce resistance.

Other limitations to the wide adoption of WGS in clinical laboratories are:

- WGS technologies require substantial initial costs and sustained investments in laboratory equipment, computing infrastructure and training and therefore may not be cost-effective at small sites.
- For many pathogens and antimicrobials, the predictive sensitivity and specificity of WGS for inferring AMR phenotypes are still too low for practical routine application.
- Lack of easy-to-use bioinformatics tools allowing analysis in real time of the data produced.

July Webinar Q&A

Internationally agreed standard operating procedures, quality assurance procedures and regulatory guidelines for WGS in AST do not currently exist and need to be developed to ensure that results from different laboratories are comparable.

As the cost of WGS continues to decrease and the necessary instrumentation and bioinformatics tools become more widely available, it is likely that WGS as a tool to predict antimicrobial susceptibility will become more routine in clinical microbiology laboratories over the coming years. For this, there will need to be more powerful bioinformatics tools developed before accurately determining antimicrobial susceptibility based on combinations of multiple different genes or related mutations. Phenotypic data may always be required to detect emerging mechanisms of AMR, however, as the AMR mechanisms relevant to each organism or drug combination are better defined genotypically, WGS analyses should result in fewer false-negative predictions.

There are settings in which genomics is replacing phenotypic AMR, notably in public health surveillance for certain pathogens. Here the benefits of WGS outweigh the negatives - processing and analysis is often centralised (reducing per isolate costs and enabling access to technical experts in sequencing and bioinformatics), turn-around times are not as short as in the clinical setting, and importantly the key action arising from the results of the genomic analysis is in understanding the incidence and spread of AMR (and not in directly guiding treatment).

An example of where genomics has replaced phenotypic testing is in surveillance of non-typhoidal *Salmonella*. Here the genome is used to predict the serotype and the AMR pattern; made possible by the development, continued updating and curation of databases of genotypes (genes, mutations, and genetic structures) that are strongly predictive of both characteristics. In this setting, genomics allows us to efficiently explore very large collections of isolates, essentially only performing a single test (sequencing). In the case of AMR, genomics can provide us with the specific AMR genes and mutations present in our region, and the ability to investigate whether the resistance is representing local spread of a pathogen or importation from overseas, or possibly a combination of both. This extra resolution afforded by sequencing is highly beneficial to AMR surveillance programs.

Timely detection of outbreak is very important for early containment. Do you think genomic AMR surveillance can fill the gap of early detection for an AMR outbreak?

Early detection of outbreaks is critical to enable timely implementation of control measures, leading to shorter outbreaks and, hopefully, a smaller number of affected people. Genomic surveillance has been shown to lead to earlier detection of foodborne outbreaks, for reasons that are likely to apply to AMR outbreaks also. Using genomic surveillance we are able to identify AMR pathogens that are similar at a finer resolution than conventional typing methods, for example because they have the same resistance genes, the same categorisation using a genomic characterisation method such as MLST, or because they are phylogenetically more closely related.

Traditionally, outbreaks are detected when numbers of a certain pathogen type or subtype are higher than what has been observed previously. This means that where there is a background rate of infection of that type or subtype, outbreaks might not be detected until quite a number of people are affected. However, because of the additional resolution provided by genomic surveillance, suspected transmissions can be seen with only a very small number of closely related sequences.

When combined with epidemiological data, phylogenetic analysis of sequences can also greatly enhance our understanding of an outbreak, helping us identify where and when transmissions might have occurred and further helping to target our control measures. These methods are particularly useful for some AMR pathogens where patients can experience long term colonisation, sometimes over many years. Phylogenetic analysis can help to link these cases to outbreaks, even where they are identified with the AMR pathogen in a different place and/or a long time after they acquired it, helping us to better identify the extent, time and place of AMR outbreaks.

In Timor-Leste, where there is a struggle to set up facilities to do antibiotic sensitivity, how to start to introduce genomic aspect of AMR?

This is a great question, but one that is very challenging to answer. There are many countries in this situation, struggling to get phenotypic susceptibility testing set up across regional and/or district laboratories to support the management of infectious disease, and more broadly AMR surveillance. In this setting, genomics is probably not the answer, or at least not the first action that would be taken (for

July Webinar Q&A

many of the reasons outlined in the answer to the first question about whether genomics can replace phenotypic testing).

What could potentially assist in this setting is the use of rapid and automated molecular diagnostic tests (e.g., the GeneXpert). Such platforms are designed for ease-of-use (limited steps needed to prepare and test a sample), and to provide rapid results that have been validated for use in this setting. A key disadvantage of these molecular platforms is that they are still more expensive than phenotypic susceptibility testing and require infrastructure (the testing platform) to be in place.

Subsequently, their use in this setting often needs to be strategic - to balance their cost with their utility, i.e., they could be used to test for resistance against the antibiotic which will be used to treat a high-risk patient, or in a situation in which transmission of a resistant pathogen is suspected. The results for the former, would provide confidence in whether that treatment should work from a microbiological standpoint. In the latter, these results could confirm if the suspected outbreak isolates are carrying the same resistance gene. It should be noted that in investigation of transmission, molecular/genomic testing should not replace epidemiological investigations, but rather support the identification or elimination of suspected cases.

Thank you Ben for an excellent presentation and responding to the questions from Fellows.

The next webinar will be held on Wednesday 4th August at 08:30 BST (UTC +1:00). It will be open to all Fellows and Host Institution teams.

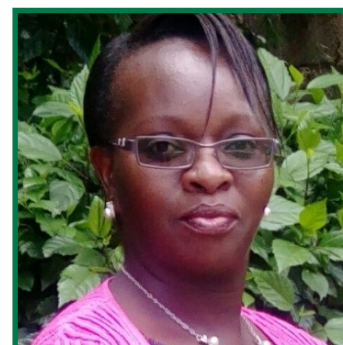
The Fleming Fellows webinars are an opportunity to showcase your work or present on topics relating to AMR. If you are interested in presenting at a future webinar or have topics you would be interested in hearing more about for other speakers, email us at FlemingFellowshipScheme@mottmac.com.

You can also fill out the [Fleming Fellows Event Survey](#) which is still open for you to communicate what you would like to see at future events.

Welcome to New Fleming Fund Fellows

This month, we are welcoming Kenya Policy, Ghana Cohort II, Nigeria Cohort II and Nigeria Policy Fellows. These Fellows have all taken part in Orientation Meetings with their Host Institutions, and are currently working with mentors on developing workplans. You can learn more about these Fellows and their diverse professional experience in the profiles below.

Join us in welcoming Evelyn, Romona, Brian, Francis, Esther, Eric, Maryam, Suliat, Nnaemeka, Peter, Aaron and Saviour.



Evelyn Wesangula – Policy, Human Health (Kenya)

Evelyn is a pharmacist leading the Patient Safety Division of the Ministry of Health in Kenya. She has championed the development of the AMR National Policy and Action Plan, and the accompanying strategies for AMR from a multisectoral perspective.

As the national focal point for AMR, Evelyn has been a key player in the implementation of infection, prevention and control (IPC) interventions, AMR surveillance activities, and antibiotic stewardship and awareness programmes at the national level. She is also a member of the Fleming Fund Technical Advisory Group.

Evelyn has a MSc in Tropical and Infectious Disease and has over 10 years of experience with the Ministry of Health in Kenya. She worked as a consultant for the WHO, developing guidance on implementing National Action Plans through establishing and sustaining multisectoral collaboration. Recently, she also worked on developing guidance on integrated antimicrobial stewardship policy.

Evelyn is committed to overcoming barriers, and to work with partners from within and beyond Kenya to sustain changes that will reduce the burden of AMR.

Welcome New Fellows



Romona Ndanyi – Policy, Animal Health (Kenya)

My name is Mary Romona Ndanyi, but I prefer to go by my middle name Romona. I am a veterinarian working with the Ministry of Agriculture, Livestock and Fisheries in the Department of Veterinary Services (DVS).

Currently, I am based in the Diagnostic Services Division of the DVS where I am in charge of coordinating AMR laboratory activities and Biorisk Management. I am also a member of the National

Antimicrobial Stewardship Interagency Committee (NADIC) and the National AMR Secretariat, where I am involved in coordinating the implementation of the AMR National Action Plan.

I hold a MSc in Veterinary Sciences and am also a Biorisk Management trainer of trainers, certified by the Sandia National Laboratories in the United States of America.

I am motivated to be an AMR Policy Fellow because my interest lies in positively influencing and impacting the community around me. I hope that, through this Fellowship, I will interact with AMR experts and colleagues to sharpen my skills. I also look forward to getting hands-on experience in creating awareness on AMR issues and transforming AMR data into tangible evidence for influencing policies and decision making in addressing AMR.



Brian Adu Asare – AMR Health Informatics, Human Health (Ghana)

I am a pharmacist with an interest in Health Informatics, AMR and Health Technology Assessments (HTA). I lead on drug information, research, and monitoring and evaluation at the Pharmacy Directorate of the Ghana Ministry of Health.

I provide technical assistance to the Ghana AMR

Secretariat. Previously, I provided technical assistance to lead the development and implementation of the Ghana AMR National Action Plan, working with various stakeholders from the human, animal and environmental sectors in a One Health approach.

AMR is a global challenge which threatens to erode global and country-level investments in health systems, as well as agriculture, aquaculture, and the environment. It is therefore imperative that all efforts be made to contain AMR within the human and non-human sectors to protect lives and investments.

The systems for capturing AMR data is one of the weak links in Ghana's efforts to establish strong AMR surveillance. It is my hope that, through this Fellowship, I develop further data analytics capacity to add value to AMR data used by the policy makers and practitioners in our health system.



Francis Kyei-Frimpong – AMR Surveillance, Pharmacy (Ghana)

My name is Francis Kyei-Frimpong and I am the principal pharmacist at Kumasi South Hospital in Kumasi, located in the Ashanti Region of Ghana.

I am responsible for providing medicine information, advice, and counselling services to clients and other health staff at the hospital. I also train and monitor the activities of newly posted pharmacists and pharmacy students, as well as

prepare reports on the hospital's pharmacy department for the District Health Information Management System.

I hold a master's degree in Clinical Pharmacy and my interest in AMR/AMU began when completing my thesis for this degree. I observed that antimicrobials were being prescribed and used inappropriately in the hospital where I was working. I also saw how the irresponsible use of antimicrobials contributed to poor clinical outcomes, increased cost of treatment and, ultimately, antimicrobial resistance.

At the end of this Fellowship programme, I expect to improve my skills for designing data collection tools and become an excellent analyst of scientific data. With this, I hope to contribute effectively to the fight against the irresponsible use of antimicrobials and antimicrobial resistance.

Welcome New Fellows



Esther Dsani – Bioinformatics and Sequencing, Animal Health (Ghana)

I began my career in 2013 as a veterinarian with the Veterinary Services Department. Over the years, my work evolved from clinical service delivery on farms to include laboratory diagnostic work. This aimed to improve animal health, welfare and production for livestock farmers in the Volta Region of Ghana. My most recent role involves surveillance, response and research on emerging health threats, including AMR.

Together with colleagues from the human health sector, I have conducted studies on the presence of Methicillin-resistant Staphylococci in livestock farms, and antibiotic resistant E. coli in raw meat products. These studies have provided first-hand information on the extent of the AMR problem in selected farms and possible routes of transmission.

For me, this Fellowship will provide critical skills in sequencing and bioinformatics needed to analyse and interpret AMR data. The overarching goal is to contribute to the development of achievable and context-specific interventions for AMR in Ghana, using seemingly complex data.

I look forward to interacting with broad network of Fellows working to combat the threat of AMR to improve livelihoods.



Eric Boyce Sawyerr – AMU/C Surveillance, Aquaculture and Animal Health (Ghana)

I am a fisheries manager with the Fisheries Scientific Survey Division/Fish Health Unit of the Fisheries Commission of Ghana. I have a MPhil in microbiology and my interests are in animal health, food safety, antimicrobial residues and resistance.

My work is focussed on laboratory experiments used in the diagnosis and treatment of aquatic species diseases.

I assist in coordinating and advising on efficient and effective disease control and prevention measures, as well as capacity building for farmers and staff.

I am very passionate about raising awareness of antimicrobial usage and problems of resistance due to ineffective and inefficient treatment of diseases, and the spread of resistant microbes.

I would like to learn about multidisciplinary approaches to support antimicrobial use and surveillance, as well as appropriate antimicrobial use information. I look forward to benefitting from the experts and other One Health professionals in the Fellowship Scheme, as well as sharing my own experiences and using knowledge acquired to improve the Fisheries Commission's surveillance activities.



Maryam Ibrahim Buba – Bioinformatics and Sequencing, Animal Health (Nigeria)

My name is Maryam Ibrahim Buba and I am a veterinarian and trained field epidemiologist. I work in the Epidemiology Division of the Department of Veterinary and Pest Control Services within the Federal Ministry of Agriculture and Rural Development in Abuja, Nigeria. My role involves the surveillance for animal diseases and events such as AMR.

I am a Doctor of Veterinary Medicine and hold a master's in Public Health. I am a member of the Animal Health AMR Technical Working Group and also completed the UC Davis Rx One Health course.

I intend to participate in this Fellowship to gain the knowledge and skills to improve and strengthen my capacity in AMR surveillance using bioinformatics and whole genome sequencing. This is needed to determine the burden of antibiotic misuse, and take appropriate actions based on established evidence.

With the training I receive, it is my wish to train my colleagues who are not part of this Fellowship programme, so as to build a community of experts with common objectives. This will ensure the sustainability of AMR surveillance in Nigeria.

Welcome New Fellows



Suliat Adeleke – AMR Laboratory, Aquaculture (Nigeria)

Adeleke Suliat Yetunde currently works as Veterinary and Aquatic Animal Health Officer in the Federal Department of Veterinary and Pest Control Services. This department is part of the Ministry of Agriculture and Rural Development in Nigeria. Suliat's responsibilities include routine farm visits and national legislation compliance checks. She also works with farmers to

understand responsible veterinary drug use and antimicrobial alternatives to tackle AMR.

Suliat is a passionate veterinarian with the responsibility of advocating and enforcing the responsible use of antimicrobials in agriculture. She graduated from the University of Ibadan and, over the years, has gained field experience in food animal practices in Nigeria. This experience stimulated Suliat's interest in AMR control and provided insight into a number of challenges and practices of local farmers, including AMU patterns. Farmers have unrestricted access to antibiotics, leading to antimicrobial residue in food animal product which presents a major public health issue increasing food safety risks and AMR.

Through this Fellowship, Suliat plans to improve her contribution to future government policies and hopes her participation will be of benefit to Nigeria.



Nnaemeka Ndodo – Bioinformatics and Sequencing, Human Health (Nigeria)

I am Ndodo Nnaemeka, currently the chief molecular bioengineer at the National Reference Laboratory at the Centre for Disease Control in Abuja, Nigeria.

I coordinate research at the National Reference Laboratory. I also coordinate the use of molecular and genomic tools to support public health response to disease detection and control. I worked on establishing sequencing capacity for pathogens of

public health concern; this capacity is now being deployed in sequencing SARS-CoV2 viral genomes.

I have an MSc and PhD in Human Anatomy, as well as an MSc in Molecular Bioengineering. I am also currently president of the Nigerian Society of Human Genetics. My interest in AMR stems from the fact that AMR continues to generate interest around the globe because it affects us all. If issues around AMR are not well sorted, it will be the next big global health challenge, so there is a need to support our AMR team with the genomic tools to enhance surveillance.

I am excited that this Fellowship will offer me the opportunity of working with global names in AMR and to learn novel tools to advance AMR genomic surveillance. This Fellowship will be a unique privilege to learn and work with classical AMR approaches to solve national disease questions.



Peter Francis Umanah – AMR Advisory Policy, Animal Health (Nigeria)

Peter is a veterinarian with a MSc in Community Health. He is a chief veterinary officer overseeing the Epidemiology Division of the Department of Veterinary and Pest Control Services in the federal Ministry of Agriculture and Rural Development, Abuja. Peter also serves as the national coordinator of the Avian Influenza Control Programme.

In the Ministry of Agriculture, Peter is in charge of epidemiology and AMR/AMU activities. He supervises the AMR/AMU focal person and monitors activities of the animal health sector AMR pillars, as well as the Fleming Fund Fellows. He is also the co-chair of the AMRCC and collaborates with the Fleming Fund Country Grant partners in Nigeria in implementing their activities.

For Peter, there is a need for policies and regulations that will recognise peculiarities around animal health and agriculture, and how both sectors contribute to the problem of AMR,

He hopes that this Fellowship will enable him to learn the process behind evidence-based policy formation, advocacy and response. Peter also sees this Fellowship enhancing his coordination of AMR activities in the agricultural sector, both in his primary duties and management.

Welcome New Fellows



Aaron Oladipo Aboderin – AMR Policy Advisory, Human Health (Nigeria)

I am Aaron Oladipo Aboderin, professor of Clinical Microbiology at Obafemi Awolowo University in Ilefe, Nigeria.

I am also honorary consultant in Clinical Microbiology at the Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC) and coordinator of the Antimicrobial Stewardship Group at OAUTHC. I am also Chair of the Nigeria

Technical Working Group on Antimicrobial Resistance.

My areas of work include infection management, antimicrobial stewardship, surveillance of antimicrobial resistance and healthcare-associated infections. My motivation and passion for working on antimicrobial resistance spans my career in clinical microbiology.

Working in a Nigeria University Teaching Hospital, I have had to contend with challenging issues including diagnostic laboratory insufficiency, the stark reality of untreatable infections, lack of access to effective antimicrobials, chaotic supply chain system, poor regulatory enforcements, as well as the presence of substandard and falsified medicines.

I have long realised that antimicrobial resistance is a hydra-headed complex challenge. It requires coordinated responses across sectors, robust policies and good governance mechanisms. This realisation helped in providing guidance and leadership to formulate the Nigeria National Action Plan on Antimicrobial Resistance (2017-2022). I expect that the AMR Policy Advisory Fellowship will provide a structured, formal, high-quality professional development opportunity. This will lead to relevant knowledge, skills and competence to enhance effective leadership and focussed vision in national, as well as global, response to AMR.



Saviour Yevutsey – AMR Policy Analysis, Human Health (Ghana)

Saviour is a Deputy Director of Pharmaceutical Services at the Ministry of Health in Ghana. He is a Fellow of the Ghana College of Pharmacists and has a master's of Public Health from the University of Ghana, Legon, with a focus on health policy planning and management. He also has a degree in pharmacy.

Saviour authored the "Situational analysis of antibiotic use and resistance in Ghana: policy and regulation". This analysis contributed to the policy agenda-setting on AMR in Ghana. He was also involved in the development of the AMR policy and the National Action Plan under the One-Health approach.

Saviour is the head of the Ghana Antimicrobial Resistance Coordinating Secretariat at the Ministry of Health. He coordinates meetings of the inter-ministerial committee for AMR and the AMR coordinating platform. The pilot implementation programme for monitoring antimicrobial use in human health facilities was also led by Saviour.

Saviour's current roles at the Ministry of Health will improve the use of AMR and AMU data for advocacy in governing structures. It will also benefit the selection of appropriate and evidence-based antimicrobials during the review of the standard treatment guidelines for humans.

Next month we will be welcoming Fellows from Tanzania and Zambia to the Fleming Fellowships.

Field Notes

Navigating the Complex Terrain of AMR Policy, Advocacy, and Communication - A call for participation to co-develop guidance on AMR policy and advocacy

By Anthony Burnett, Chaelin Kim, Giyoung Paing, Parmita Das, Prerana Parajulee and Satyajit Sarkar from the Department of Policy & Economic Research, International Vaccine Institute

In December 2020, RADAAR - a Fleming Fund Regional Grant - was invited to speak on the broad topic of AMR policy, advocacy, and communication at the Fleming Fellows' monthly webinar. Recognizing the rich insights and lessons that 140 Fleming Fellows could offer, they were invited to participate in an online survey in April 2021. This survey, on the theme of barriers and enablers to regional data sharing and analysis for informing and influencing policymaking, was also disseminated to all Fleming Fund grant recipients.

Of the total 205 respondents from across the 22 Fleming priority countries, 70 Fleming Fellows, from both the human and animal health sectors, participated.

Results from this survey were used to inform the design and content of three regional data workshops which followed in June-July 2021. Each workshop was conducted over three days as follows:

- South Asia: 15 – 18 June 2021
- Africa: 29 June – 1 July 2021
- South East Asia: 13 July – 15 July

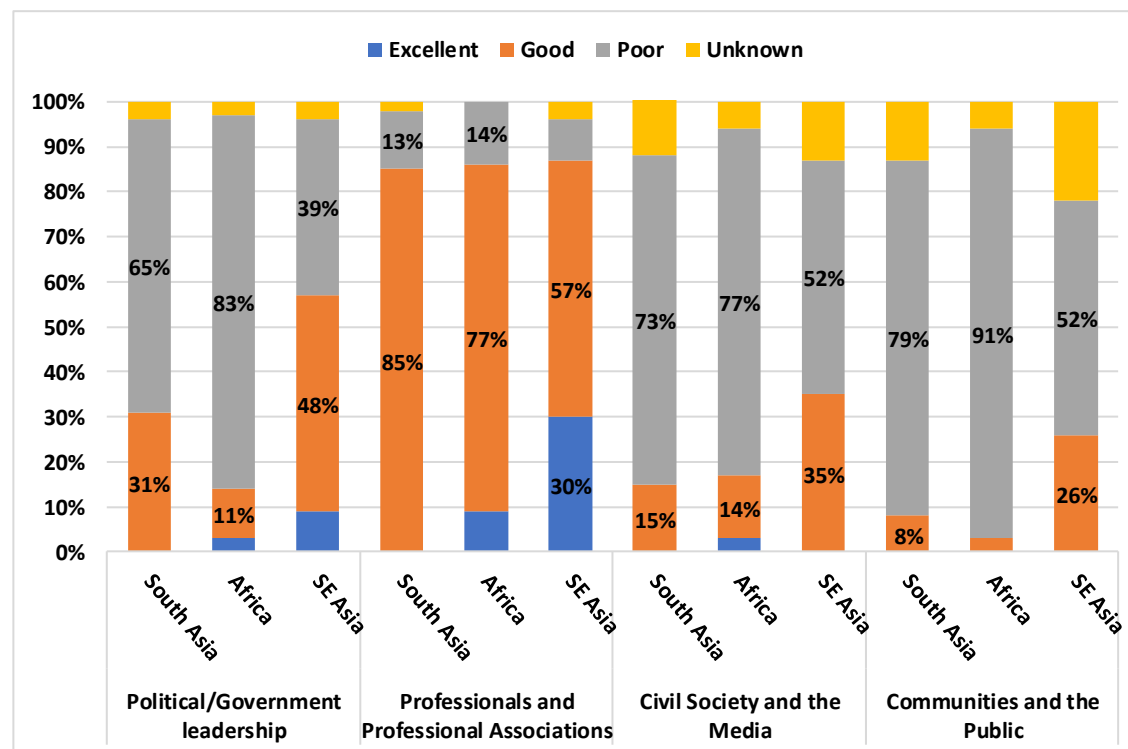
The workshops had the following registration and participation figures:

- 525 participants registered across the three workshops
- 112 participants per day participated on average
- 84 Fellows registered across the three workshops
- 15 Fellows per day participated on average

Guidance and tools for AMR policymaking were a central theme of all three workshops and a series of 'snap' opinion polls were conducted among participants to gauge opinions of regional stakeholder

Snap Poll 1: In your opinion, what is the level of awareness and understanding of AMR among the following categories of stakeholders:

South Asia (n=48), Africa (n=35), SE Asia (n=23)



engagement and awareness of AMR. The revealing responses (see following figures) point to the contradictions and complexities that need to be navigated and addressed while developing such guidance.

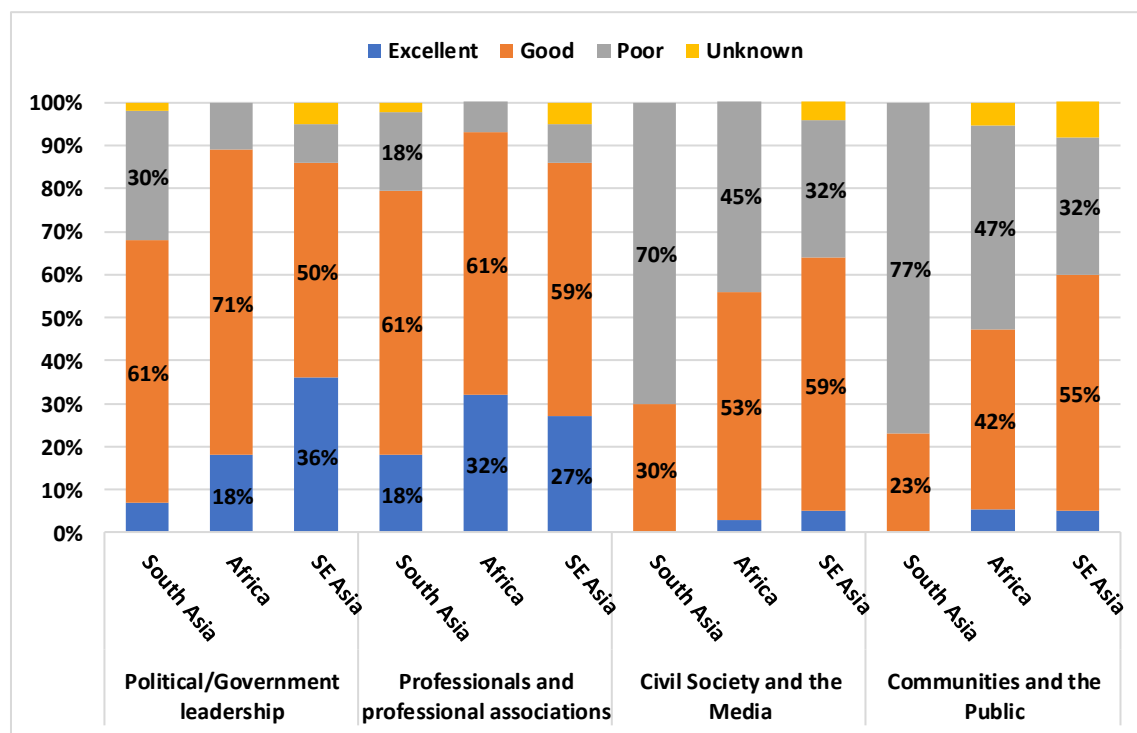
According to Poll 1, workshop participants from South Asia and Africa overwhelmingly opined that the level of awareness and understanding of AMR among communities/public, civil society and media, and the political/government leadership was poor. While participants from South East Asia felt that awareness and knowledge among political/government leadership was reasonably good. Participants from all three regions felt strongly that knowledge of AMR among professionals and professional associations was high. While this opinion could reflect that most participants were themselves medical doctors or veterinarians, Poll 2 suggests that the situation may be more complicated.

The majority of South Asian participants acknowledged that the engagement of their own organizations' with civil society, the media, communities, and the public was very poor.

Field Notes

Snap Poll 2. In your opinion, what is the level of YOUR engagement with the following categories of stakeholders:

South Asia (n=44), Africa (n=38), SE Asia (n=22)

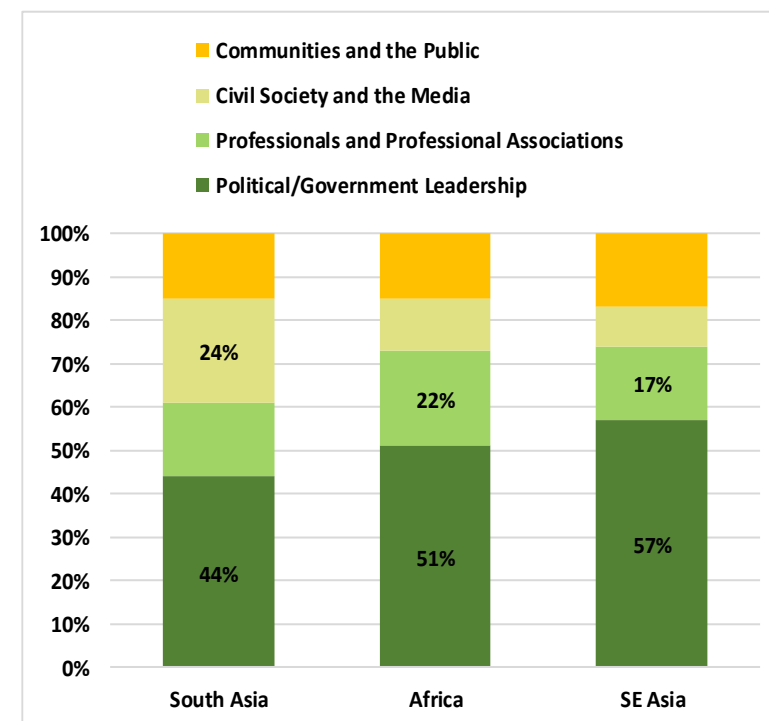


In all three regions, the engagement with government leadership, professionals and professional bodies was significantly higher. However, the level of engagement with government leadership as indicated in Poll 2 does not appear to have translated proportionately into a high level of understanding and awareness among political/government leadership, as indicated in Poll 1.

'Snap' Poll 3, shows that most participants felt that to build a robust 'whole-of-government' and 'whole-of-society' response to AMR within the next year would require maximum

Snap Poll 3. In your opinion, to build a robust "whole-of-government" and a "whole-of-society" response to AMR in the next ONE YEAR, which category of stakeholders should you focus on most?

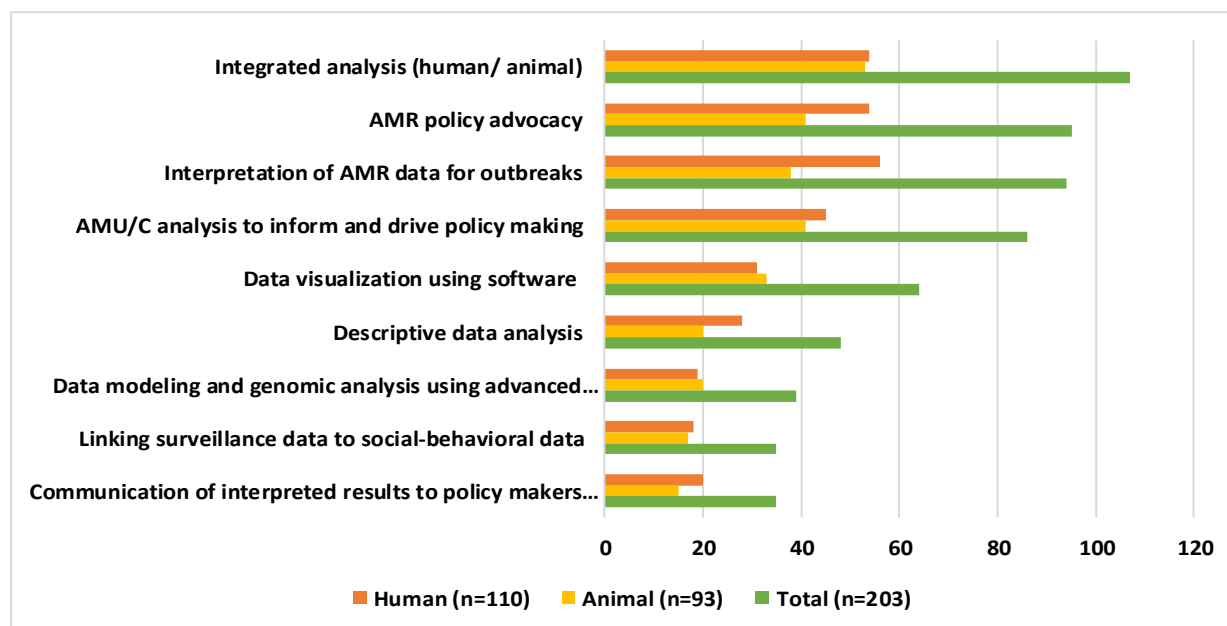
South Asia (n=41), Africa (n=41), SE Asia (n=23)



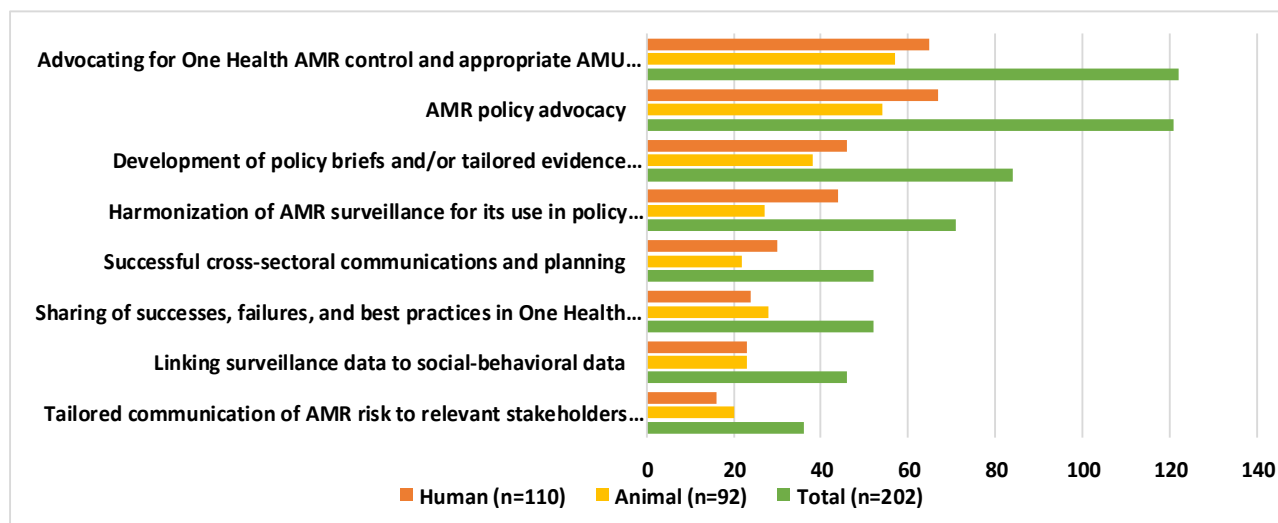
advocacy efforts directed at politicians and government leadership. While this may be true, this result could also reflect a potential 'comfort zone' due to the fact that workshop participants already have excellent or good levels of engagement with this audience, as indicated in Poll 2.

The RADAAR online survey, conducted across all 22 Fleming Fund priority countries, reflects a demand for data-driven AMR policy and advocacy guidance, which would necessitate the development of policy briefs and/or tailored evidence summaries

Which of the following aspects of AMR/U/C data analyses would you be interested in learning more about at the RADAAR regional data workshop (planned for Q2/Q3, 2021)?



Which of the following capacity strengthening ideas/ topics for the RADAAR continental policy workshops (planned for Q4/2021) are most attractive and advantageous to your organization?



Field Notes

for advancing policy dialogues. This is high on the list of priorities, as indicated in the survey results below (see the upper left graph on capacity strengthening ideas/topics).

As with Poll 3, there may be other factors akin to the complexities underlying the results of the 'snap polls' described previously that resulted in 'linking surveillance data to social and behavioural data' and 'tailored communication of AMR risk to relevant stakeholders and communities' being at the bottom of the list.

Strengthening capacities to effectively inform and influence AMR policymaking, as well as drive AMR higher up on national development agendas, will require a nuanced understanding of the AMR problem and response.

The RADAAR Project team at the International Vaccine Institute (IVI), based in Seoul, Korea, firmly believes that the Fleming Professional and Policy Fellows are uniquely positioned to provide grounded, nuanced, and 'real world' insights into the dynamics of the AMR containment response. With practically all Fellows working within government institutions, and mentored by a formidable array of Host Institutions, they are a particularly rare and rich resource for participating in the co-development of guidance and tools to strengthen country capacities in policy and advocacy for AMR containment.

Going forward, the RADAAR team looks forward to a much closer and deeper engagement with all the Fleming Fellows, which is certain to be mutually enriching and fulfilling.