ReAct Report 2015-2018

About this report
ReAct follows Sida’s guiding principles of Results-based Management (RBM) and has focused on reporting on outcomes under each LFA objective in this summary report for the years 2015-2018. The RBM approach shifts away from inputs and activities to a focus on achievement of results. The report tries to capture key achievements of results at outcome level and reflects on lessons learned, complemented by evidence and highlights from project activities during the grant period.

Objective 1: Develop and advocate policy solutions that address global ABR challenges
Outcomes
• LMIC policy concerns are effectively addressed in global and regional policymaking processes, including the WHO GAP
• An increased number of countries start working toward incorporating ABR in their national health strategic plans and policies and putting in place ABR/AMR policy mechanisms.
• Actions on ABR are initiated by other organizations
• Understanding of issues relating to the need for effective antibiotics is increased in decision makers, health professionals and industry

Objective 2: Raise awareness on ABR as a multi-sectoral challenge that requires a proportionate response
Outcomes
• Increased awareness about the effects of antibiotic use in the agricultural and veterinary sectors
• Change in perception of bacteria among various stakeholders; from fear of all bacteria (which leads to high consumption of antibiotics), to a more balanced view where antibiotics only need to be taken for a small subset of pathogenic bacteria
• Establishment of Global Antibiotic Awareness Day as time for intensive campaign and action on antibiotic resistance

Objective 3: Strengthen existing and develop new partnerships in order to advance the multi-sectoral response to ABR
Outcomes
• Other organizations integrate work on ABR on their agenda
• Improved intra-regional, cross-border collaboration among ReAct network partners.
• Improved inter-sectoral collaboration among NGOs and intergovernmental agencies on issues of shared concern on antibiotic resistance

Objective 4: Identify, pilot and document innovative approaches to change behaviors influencing the ABR situation
Outcomes
• Stakeholders commit to adapting and extending the practices in their locales.
• ReAct pilot projects are taken up and implemented in other settings

Objective 5: Enable action on ABR by providing expert advice, stimulating research and maintaining an open access knowledge center.
Outcomes
• ReAct is a trusted source of information on antibiotic resistance and is able to act as an advisor.
• Stakeholders, particularly in LMICs, have increased access to reliable information on ABR, including best practices, that enables them to take action.
• Networking among organizations and individuals working on ABR is increased.
• Other organizations incorporate work on ABR in their agendas.
• ReAct and our stakeholders are updated on the policy landscape and are able to lay out innovative and forward-thinking policy approaches to tackle antibiotic resistance affecting global and local processes.

Objective 6 Increase funding to ReAct and the ABR issue
Outcomes
• ReAct has a sustainable and more diversified funding base
• Increased funding for the ABR issue
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## Acronyms

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<tr>
<td>ABR</td>
<td>Antibiotic Resistance</td>
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<tr>
<td>African CDC</td>
<td>African Union Centers for Disease Control and Prevention</td>
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<td>AMR</td>
<td>Antimicrobial resistance</td>
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<td>AMS</td>
<td>Antimicrobial stewardship</td>
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<td>ARC</td>
<td>Antibiotic Resistance Coalition</td>
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<td>ASPIC</td>
<td>Antibiotic Stewardship and Prevention of Infection in Communities</td>
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<td>CARB-X</td>
<td>Combating Antibiotic resistant Bacteria</td>
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<td>CGIAR</td>
<td>Consultative Group for International Agricultural Research</td>
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<td>CSOs</td>
<td>Civil Society Organizations</td>
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<td>DNDi</td>
<td>Drugs for Neglected Diseases Initiative</td>
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<td>DRIVE-AB</td>
<td>Driving reinvestment in research and development and responsible antibiotic use</td>
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<td>ECDC</td>
<td>European Centre for Disease Prevention and Control</td>
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<td>EMA</td>
<td>European Medicines Agency</td>
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<td>EPN</td>
<td>Ecumenical Pharmaceutical Network</td>
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<td>EU</td>
<td>European Union</td>
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<td>FAO</td>
<td>Food and Agriculture Organization</td>
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<td>FBOs</td>
<td>Faith-Based Organizations</td>
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<td>FDA</td>
<td>Food and Drug Administration</td>
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<td>FIND</td>
<td>Foundation for Innovative New Diagnostics</td>
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<td>GAP</td>
<td>Global action plan on AMR</td>
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<td>GARDP</td>
<td>Global Antibiotic Research and Development Partnership</td>
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<td>GARP</td>
<td>Global Antibiotic Resistance Partnership</td>
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<td>GLG</td>
<td>Global Leadership Group</td>
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<td>G77</td>
<td>Group of 77 at the United Nations</td>
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<td>IACG</td>
<td>United Nations Interagency Coordination Group on Antimicrobial Resistance</td>
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<td>IDEA</td>
<td>Innovation+Design Enabling Access Initiative</td>
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<td>IFMSA</td>
<td>International Federation of Medical Student Associations</td>
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<td>JPIAMR</td>
<td>The Joint Programming Initiative on Antimicrobial Resistance</td>
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<td>LFA</td>
<td>Logical Framework</td>
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<td>LMICs</td>
<td>Low- and middle-income countries</td>
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<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
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<td>MOOC</td>
<td>Massive Open Online Course</td>
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<td>MSF</td>
<td>Médecins Sans Frontières</td>
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<td>NAP</td>
<td>National Action Plan on AMR</td>
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<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>OIE</td>
<td>World Organisation for Animal Health</td>
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<td>PAHO</td>
<td>Pan American Health Organization</td>
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<td>R&amp;D</td>
<td>Research and development</td>
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<td>Sida</td>
<td>Swedish International Development Cooperation Agency</td>
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<td>SDGs</td>
<td>Sustainable Development Goals</td>
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<td>TB</td>
<td>Tuberculosis</td>
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<td>TORs</td>
<td>Terms of references</td>
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<td>UN</td>
<td>United Nations</td>
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<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
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<td>UNDAF</td>
<td>UN Development Assistance Frameworks</td>
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<td>UNDP</td>
<td>United Nations Development Programme</td>
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<td>UNICEF</td>
<td>The United Nations Children’s Fund</td>
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<td>UNGA</td>
<td>United Nations General Assembly</td>
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<td>WAAW</td>
<td>World Antibiotic Awareness Week</td>
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<td>WHA</td>
<td>World Health Assembly</td>
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<td>WHO</td>
<td>World Health Organization</td>
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<td>YOP</td>
<td>Concerned and Caring Parents Foundation</td>
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During 2015-2018, ReAct has been a driving force behind many of the key advances in the field of antibiotic resistance (ABR). ReAct played a key role in lifting ABR and addressing low- and middle-income countries’ (LMICs) concerns to the global policy making processes, both on the road to the UN General Assembly (UNGA), the 2030 Agenda for Sustainable Development, and subsequently in the UN Interagency Coordination Group (IACG) on Antimicrobial Resistance (AMR). Strategic engagement and advocacy towards UN political process included speaking at the first UN briefing on “Antimicrobial Resistance: An Emerging Global Threat” for member states and intergovernmental agencies in June 2015, and co-organizing “Meeting the Multisectoral Challenge of AMR” in New York in June 2016 for country missions, UN agencies and other stakeholders in advance of negotiations around the UNGA High-Level Meeting on AMR. ReAct also championed the concept of delinkage for the development of new antibiotics which was included in the UN Political Declaration on AMR adopted at the UNGA in 2016. Policy discussions over the model for ensuring innovation, access and stewardship of novel antibiotics have unfolded in various venues, from the UN IACG to Global Framework for Development and Stewardship. ReAct has also worked to formulate ABR as an issue of planetary health and as a development issue with clear relevance for the achievement of the sustainable development goals (SDGs), by for example publishing two reports on the interconnectedness of ABR and the SDGs that have been widely referenced.

ReAct has increased its support - both on the ground and through an online technical resource repository, the ReAct Toolbox – to governments for the development and implementation of their national action plans (NAPs), in India, El Salvador, Ecuador, and a number of countries across sub-Saharan Africa. ReAct has been actively engaged in NAP progress in Zimbabwe, Kenya, Zambia, Nigeria, Tanzania and Uganda where we offered instrumental support on national AMR situation analyses; developing, reviewing and publishing of AMR NAP documents; developing national antimicrobial stewardship (AMS) policies and frameworks and developing terms of reference documents for members of AMS committees in healthcare facilities.

Over the past four years, ReAct has worked to raise and increase awareness of ABR at global, regional and community levels and has been instrumental in highlighting the One Health nature of ABR through various communication formats and channels. This includes our regional activities especially during the World Antibiotic Awareness Week (WAAW), and our increased online presence via a redesigned website, newsletter and social media, which has led to large increases in visits and engagements. In the domain of antibiotic use in agriculture and food production, ReAct’s work in the consumer space culminated in the meeting “Globalizing Food Campaigns: Sharing Strategies to Address Antimicrobial Resistance” in Bangkok, in December 2018. This meeting was attended by more than 40 civil society representatives from across the world and has resulted in the “Bangkok Declaration on Antimicrobial Resistance, Food Systems and Farming” outlining the strategies which can incentivize reduction in antibiotic use in food animal production, while ensuring that principles of equity and sustainability are followed.

ReAct has also led coordination and communication activities engaging inter-sectoral partners, including the convening of the Antibiotic Resistance Coalition (ARC) and creating a network of regional and national ABR champions, that have become key voices of civil society and LMICs in the global policy debates on ABR. As demonstrated by the independent submissions by ARC members and partner organizations during the public consultation period for the IACG’s draft recommendations in 2018, ReAct’s work through ARC has effectively enabled other organizations to integrate work on ABR on their agenda. The Tripartite agencies (WHO, FAO and OIE) turned to ARC to host a global consultation for civil society on the Global Development and Stewardship Framework on Antimicrobial Resistance. In concert with partners, ReAct’s ability to generate opportunities and processes for new and existing movements to influence discussions at the national and international level increases.

During this grant period, our newest node, ReAct Africa, has become established and a key player in the region. A network of ‘champions’ has been created; together with ReAct Africa staff,
individuals and organizations that are passionate about and engaged in the ABR issue have participated in a range of activities including the establishment of antimicrobial stewardship programs in Zambia, Nigeria and Kenya. Other ABR champions have contributed to the development of their country national action plans through ReAct’s support, conducted different activities during the yearly WAAW, lectures in hospitals and universities and giving TV and radio interviews. Within 3 years, the ReAct Africa Conference has grown from 10 to over 20 countries in participation, coming from the human health, animal health, agriculture and environment sector. The conference has created a platform for exchange, cross-learning and provides south to south exchanges. The conference also plays a major role in building capacity on AMR for key stakeholders from various countries. It has been a “training school” on ABR/AMR and ReAct’s Toolbox has provided great resources for countries to use.

**ReAct has introduced, promoted, seed-funded and developed a range of innovative** at community, school, hospital and policy levels. In collaboration with its partners around the world, ReAct has worked to share, adapt, evaluate and extend best practices to other locales, through the development of related materials, organization of study visits and various formats of seminars, workshops and trainings. As an example, the Alforja Educativa is an innovative ReAct initiative focused on educating children and teachers and utilizing schools as actors in awareness raising and social mobilization on ABR. Over the past few years, the Alforja has grown beyond being an awareness-raising tool to engaging more actively with a wider variety of stakeholders in workshops, training over 1000 children in Latin America. Its contents were also translated into English as a first step in distributing this educational model to other countries and contexts. Through joint work between ReAct’s regional nodes, the Alforja is being adapted to Kenyan context. ReAct is also training the next generation of future leaders in AMR, from school clubs in India to Innovate4AMR, a global student design competition co-organized with the International Federation of Medical Students’ Associations and the WHO.

**Building up our credibility over the years, ReAct has been a trusted source of information** and expert advice on ABR. During 2015-18, ReAct has provided reliable scientific information to multiple stakeholders including UNICEF, WHO, various international institutions and governments. We have expanded our reach of support through targeted materials and our open-access online repository, the ReAct Toolbox, sharing reliable information, guidance and tools to support action on ABR especially for LMIC users. In 2018, more than 70,000 unique users from over 150 countries accessed the Toolbox, and it had more than 8000 returning users.

**In this period, ReAct has evolved a lot as a network.** This has occurred through improvements in internal processes concerning staffing, communication, financial management, monitoring & evaluation and planning. This has occurred at the same time as interest and action on antibiotic resistance have reached unprecedented levels, which also means that ReAct has had to adapt to ever-increasing requests for its expertise. ReAct has proactively engaged with governments and funders to increase funding for action on ABR, including co-hosting a meeting and publishing a report on AMR financing in 2018. ReAct also continued to pursue both potential core funding and project-based funding, and has successfully raised approximately 11.9 million SEK, in addition to the core grant from Sida.

**By insisting on the combination of ensuring a strong evidence-base for its work, a high level of technical and scientific expertise** and by focusing on the development of sustainable solutions for LMICs, ReAct fills a critical niche, even in an increasingly crowded field of actors. A continuous challenge is the workload as the field of ABR moves at record-breaking speed, with new opportunities (and threats) surfacing almost every week. Responding to these changes in a dynamic manner has been a hallmark of ReAct, and also part of our success. An example is the appointment of not one, but two ReAct senior staff to the UN IACG. With our new Strategic Plan, ReAct looks forward to sharpening our focus and prioritizing our efforts in building a positive agenda grounded in scientific evidence and sound policy choices to enable greater cross-sectoral and global collective action on ABR.
Develop and advocate policy solutions that address global ABR challenges

Outcomes

- LMIC policy concerns are effectively addressed in global and regional policymaking processes, including the WHO GAP
- An increased number of countries start working toward incorporating ABR in their national health strategic plans and policies and putting in place ABR/AMR policy mechanisms.
- Actions on ABR are initiated by other organizations
- Understanding of issues relating to the need for effective antibiotics is increased in decision makers, health professionals and industry
Advancing AMR policy response through the UN policy process

During 2015-18, ReAct played a key role in lifting antibiotic and antimicrobial resistance (ABR and AMR) to the attention of global policymakers, and in so doing, effectively communicated low- and middle-income countries’ (LMIC) concerns into these policy processes. ReAct worked to position ABR strategically for the United Nations (UN) political process and policy making, both on the road to the UN General Assembly (UNGA) High-Level Meeting on AMR, the 2030 Agenda for Sustainable Development and subsequently in the UN Interagency Coordination Group on AMR (IACG). These efforts supported the Logical framework (LFA) outcome of ensuring that LMIC policy concerns were effectively addressed in global policy making processes.

A series of strategic engagement and advocacy towards UN political process include speaking at the first UN briefing on Antimicrobial Resistance: An Emerging Global Threat for member states and intergovernmental agencies in New York in June 2015, co-organizing “Meeting the Multisectoral Challenge of AMR” in June 2016 for country missions, UN agencies and other stakeholders in advance of negotiations around the UNGA High-Level Meeting on Antimicrobial Resistance. In anticipation of the High-Level Meeting on AMR in September 2016, ReAct actively engaged in the UN process to shape this meeting’s outcome to reflect concerns of both civil society and low- and middle-income countries. Meeting with key country missions in New York, from the Group of 77 (G77) to the European Union (EU), key LMIC concerns were advanced: the need for addressing access, not just excess, use of antibiotics; the significant gaps in how to improve prescribing of antibiotics in healthcare delivery systems in LMICs; how AMR-sensitive interventions like universal pneumococcal vaccination could halve the number of days children under age 5 would need to take antibiotics; and the choice of either paying now to make change or paying more later to do so. ReAct also drafted and sent targeted communications to country missions calling for global commitments and action on AMR.

As part of the process to shape the language of the UN Political Declaration on AMR, ReAct was invited to provide testimony on a civil society panel. From the initial draft Political Declaration on AMR, successive drafts moved in the direction we had advocated, both towards a One Health approach and towards an interagency coordination group. Around the UN High-Level Meeting, ReAct also organized a civil society strategy discussion on September 22, 2016 with the support from the Dag Hammarskjöld Foundation.

The creation of an Inter-agency Coordination Group on Antimicrobial Resistance (IACG) was resulted from the UN Political Declaration on AMR. ReAct member Otto Cars was initially appointed to the IACG, and later, Anthony So joined as one of the three Co-Conveners of the process. Taking on the role of Co-Convener entailed numerous teleconference calls with the IACG’s six working groups and Secretariat as well as the authoring of the Subgroup paper on “Meeting the Challenge of Antimicrobial Resistance: From Communication to Collective Action” put out for public consultation in July 2018. Working closely with LMIC voices on the IACG, Otto and Anthony successfully advanced—as seen in the draft recommendations put out for public consultation—public interest and especially LMIC concerns into the process. These included keeping equitable and affordable access to antimicrobials central and with measurable accountability; aligning AMR-sensitive interventions like vaccinations and WASH interventions as part of efforts to tackle AMR; strengthening and resourcing National Action Plans on AMR; supporting and engaging civil society as well as enlisting private sector efforts to tackle AMR; and integrating AMR-related activities into country UN Development Assistance Frameworks (UNDAF).

In 2018, ReAct also convened members of the Antibiotic Resistance Coalition (ARC) in collectively responding to each of the six IACG papers and the draft recommendations put out for public consultation. Various civil society groups actively participated in these deliberations. Similarly, both food system and environmental concerns related to AMR were also raised through ARC joint position statements. These efforts supported the LFA outcome of enabling actions on ABR initiated by other organizations.

Linking AMR and the Sustainable Development Goals (SDGs)

As a reaction to the 2030 Agenda not including AMR, in 2016 ReAct published “Antimicrobial Resistance - a Threat to the World’s Sustainable Development”, in the Dag Hammarskjöld Foundation Development
Dialogue Series and Uppsala Journal of Medical Sciences (63 citations as of 8th of April 2019). The paper made the link between AMR and the achievement of the Sustainable Development Goals (SDGs). This first ReAct SDG publication was timely released along the start of Agenda 2030 and while political momentum was building up towards the UNGA High-level Meeting on AMR. Its impact was seen as subsequently the link between AMR and SDGs was made across multiple venues. One of the two main panels during the UNGA High-level Meeting on AMR was dedicated fully to this topic: ‘Relevance of addressing antimicrobial resistance for the achievement of the Sustainable Development Goals, in particular the health-related goals’. Apart from the attention received in relation to the UN process, the publication was highlighted several times by the World Health Organization (WHO) in their AMR newsletter as an editorial pick and was recognized as “the single most important read for antibiotics resistance in 2016” by Professor Dame Sally Davies, the UK Chief Medical Officer and a prominent leader of the action to combat AMR globally.

After the publication of the first SDG report, ReAct continued to advocate for including AMR in the SDGs and in a short time in the political sphere, many actors started describing AMR as a system problem of sustainable development. ReAct initiated a regional advocacy push towards strategically selected countries conducting Voluntary National Reviews, drawing up examples where the existing SDG indicators could be modified or added to include AMR. ReAct met with UNDP to discuss potential ways of including such indicators in subsequent revisions of the SDG indicator framework in 2020 and 2025. The IACG dedicated one subgroup to assessing the impact of ABR on the SDGs and the links that connects them and in 2018, procured a McKinsey report on the feasibility of additional SDG Goals and Indicators. In addition, at the strong urging of ReAct, the IACG Co-Conveners sent a communication to the Director-Generals of the Tripartite agencies on the importance of AMR-specific indicators for the SDGs.

In 2018, as a follow-up to the first SDG report, ReAct produced a more extensive second SDG report “When the Drugs Don’t Work - Antibiotic Resistance as a Global Development Problem” linking how AMR impacts specific SDGs. This report was drafted in 2018 and published in February 2019. Since its publication, the report has fed into the IACG discussion processes and the EU Ministerial meeting on AMR in Romania in 2019. The report was also featured in the SDG Knowledge Hub and covered by Forbes. Over the past four years, ReAct has honed its capacity to influence policy with flagship publications with strategic dissemination and follow-up. The publications will also be used to present ReAct’s views and shape public opinion and policy on ABR in coming years.

An end-to-end approach to antibiotic innovation and access

Background

The shortage of novel classes of antibiotics has spurred global attention on ABR, and ReAct has played a key role in seeding this concern as early as in 2009, with the European Medicines Agency- European Centre for Disease Prevention and Control-ReAct (EMA-ECDC-ReAct) antibiotic pipeline analysis. More recently, ReAct has actively advanced discussions of an alternative business model to ensure sustainable access to antibiotics. At the heart of these discussions is the recognition that the traditional pharmaceutical Research and development (R&D) model is reliant on volume-based sales, and the incentive of selling more antibiotics to generate more revenues runs counter to effective stewardship of these drugs.

Advancing the principle of delinkage

Over the past four years, ReAct was instrumental in extending the principle of delinkage from broader discussions of innovation and access to essential medicines to antibiotics. ReAct succeeded in advocating for the inclusion of these principles, including of delinkage, in the UNGA Declaration on AMR in 2016. Delinkage, means that the cost of research and development of new antibiotics is not linked to the price or the sales volume of the final drug. In doing so, both price and quantity have to be limited. Along these lines, Anthony So served as an editor in the Chatham House Working Group on New Antibiotic Business Models, resulting in both the monograph, Toward a new global business models for antibiotics: delinking revenues from sales published in October 2015 and subsequently a PloS Medicine piece on Delinking Investment in Antibiotic Research and Development from Sales Revenues: The Challenges of Transforming a Promising Idea into Reality in 2016. Among the advocacy efforts towards delinkage, ReAct has responded to important policy documents from the Boston Consulting Group and the Organisation for Economic Co-operation and Development (OECD). We have complemented this work by advocating for the principle of delinkage in key meetings such as the WHO Executive board.
the World Health Assembly (WHA), and the Member state consultation on the WHO Development and Stewardship Framework and towards important actors, such as the IACG, the EU Commissioner for Health, Unitaid, United Nations Conference on Trade and Development (UNCTAD), the Wellcome Trust and the pharmaceutical industry. ReAct has also kept watching over emerging policy venues that might influence how novel antibiotics might be brought to market—funders like Combating Antibiotic-resistant Bacteria (CARB-X), R&D priority setting bodies like the Global AMR R&D Hub, and product development partnerships like the Global Antibiotic Research and Development Partnership (GARDP).

ReAct organized a call for civil society actors, from Medicins sans Frontieres and Universities Allied for Essential Medicines to Public Citizen, to discuss access and stewardship requirements in the first round contracts of grantees under CARB-X. ReAct also provided written feedback into the Global AMR R&D Hub’s provisional work plan, responded to a survey they fielded in July-August 2018, and engaged with the head of their Secretariat to stay connected with their work.

Policy discussions over the model for ensuring innovation, access and stewardship of novel antibiotics have unfolded in various venues, from the UN IACG to the Global Framework for Development and Stewardship. Just before Anthony So’s appointment as UN IACG Co-Convener, he gave the civil society response to the IACG’s Subgroup 4 working on innovation and access to antimicrobials at the Antibiotic Resistance Coordination’s (ARC) Plus meeting held in Geneva in May 2018. ReAct also integrated these key messages into the ARC response to the Subgroup 4 IACG paper put out for public consultation in June 2018, which mobilized endorsements from over a dozen civil society groups. Anthony So and Otto Cars’ involvement as members of the IACG process helped to ensure for the first time ever, as seen in the IACG’s draft recommendations put out for public consultation, mention of both government-owned production of antimicrobials in short supply and pooled procurement as a key policy instruments. Both of these policy proposals have the potential to make delinkage a reality.

ReAct has also contributed to discussions of sustainable innovation and access of antimicrobials with GARDP, a product development partnership dedicated to bringing novel antibiotics to market. This has resulted in a paper, led by ReAct’s team, on a vision for an end-to-end approach for managing the R&D and use of antimicrobials in the healthcare delivery system. ReAct has continued to engage in related policy discussions, from providing advisory input to WHO’s own antibacterial pipeline analysis to evaluating new proposals such as the Food and Drug Administration (FDA) Commissioner Gottlieb’s licensing for a fixed number of doses of novel antibiotics on a subscription basis. In September 2018, ReAct gathered groups from Drugs for Neglected Diseases Initiative (DNDi) and South Centre to the Medicines Patent Pool, Public Citizen, UNDP and Universities Allied for Essential Medicines to consider this licensing approach at the Global Congress on intellectual property and the Public Interest in Washington, DC.

Pooled procurement promises to serve as a pivotal lever in advancing the public’s interest in ensuring availability and affordability of critical antimicrobials. Looking upstream in the supply chain, a pooled procurement facility could help ensure stable, forecasted demand for suppliers and to negotiate concessionary prices from those manufacturers. Looking downstream to the demand side, such a facility could bring useful experience and expertise in fielding procurement tenders at a time when countries are beginning to pick up more of the responsibility for procuring these products from the Global Fund. The Global Drug Facility performs many of these functions as a one-stop shop for Tuberculosis (TB) commodities, and ReAct has taken steps to position pooled procurement for further consideration: organizing a panel on “Ensuring Sustainable Access to Antibiotics: Moving from Delinkage to an End-to-End Approach” that included the Global Drug Facility at the Global Congress on Intellectual Property and the Public Interest; noting the potential of pooled procurement in a plenary keynote at the Second World Conference on Access to Medical Products in Delhi, India; and making mention of this policy lever in ARC joint position statements.

The essential role of complementary technologies

Innovative efforts to tackle antibiotic resistance move beyond the focus on medicines and need to also address the need for complementary technologies and systems. ReAct has worked to ensure that complementary technologies, such as diagnostics, also figure importantly in the response to tackling AMR. Speaking at a WHO Global Consultation on Diagnostics Interoperability in Geneva in June 2015,
ReAct discussed how new business models could help to speed up innovation in the field of diagnostics. This includes options such as push and pull mechanisms that pay for the inputs (such as grants) and outputs (such as prizes or reimbursement of end-products) of R&D, which might offset market failures.

ReAct Europe’s Anna Zorzet also participated in a JPIAMR workshop in London, UK on Identifying the Pathway to Diagnostic Development. In September 2015, ReAct convened a meeting in Geneva together with WHO, Médecins Sans Frontièr es’ (MSF) Access Campaign, and Foundation for Innovative New Diagnostics (FIND), to identify tools, resources and partnerships needed to accelerate development of a point-of-care diagnostic assay for the detection of bacterial infections in patients with acute fever in low-resource settings. FIND also reached out to ReAct as a key informant in their McKinsey-led analysis of the diagnostic and AMR landscape. Since then, FIND has formed a new strategic work area on AMR and are piloting a point of care test in selected countries in Africa, showcasing an example of the desired LFA outcome of actions on ABR initiated by other organizations.

The United Kingdom Review on Antimicrobial Resistance, an independent advisory group commissioned by the UK Prime Minister, invited ReAct to review and provide feedback on their report, Rapid Diagnostics: Stopping unnecessary use of antibiotics, which provided an overview of the importance of these technologies to tackle ABR and recommendations for innovation of diagnostics. The report was released on October 23, 2015 with an accompanying press release quoting Anthony So. He was also quoted in Chemistry World, the official magazine of the Royal Society of Chemistry regarding this same report. At the end of 2018, WHO also asked Anthony So to serve in an informal advisory capacity to support the Wellcome Trust-supported project and expert consultation project to develop a landscape on diagnostics to address AMR and target product profiles for such technologies.

**Looking forward and lessons learned**

The implementation of delinkage, however, has remained challenging. The call for billion dollar, late stage market entry rewards, the emergence of partial delinkage proposals that would let industrialized countries to continue business as usual but impose delinkage requirements on LMIC markets, and legislative attempts to apply transferrable intellectual property exclusivity that would finance antibiotic innovation in exchange for extending monopoly pricing of other drugs such as those for cancer patients—all put at potential risk both the public’s interest and affordable access in LMICs. These issues came to a head in the EU’s DRIVE-AB project (Driving reinvestment in research and development and responsible antibiotic use), and their failure to address “unresolved problems of conflict of interest in shaping policy recommendations” in a process co-led by industry and academic partners prompted ReAct Europe’s withdrawal in June 2017 and critique of their final report.

ReAct’s efforts have helped to address LMIC policy concerns, particularly over affordable access, in global policymaking processes, enabled through ARC the response by other organizations, and enhanced the understanding of issues related to the need for effective antibiotics among policy decision makers and industry. Overall, external awareness about ReAct’s positions is growing, and there seem to be some limited traction and interest on delinkage in a few European Countries. However, it is too early to say how successful this work will be as decisive actions by government and funders of R&D have yet to be taken. The pharmaceutical industry and its allies also keep seeking both incentives of extended market exclusivity and large prizes for bringing forward new antibiotics to market, whether they are breakthrough or not. The coming few years will likely be crucial for the direction of the world’s response to the almost empty pipeline of new antibiotics.

**National Action Plan (NAP) Support**

Ver the past four years, great progress has been made on NAP development in LMICs. Most countries have developed a NAP or are in the process of developing one. ReAct influenced and supported the development and implementation of NAPs in Africa, Asia and Latin America through multi-sectoral involvement – the ‘One Health’ approach. As a network present in LMICs, ReAct engaged key actors at the national, state and community levels and provided frameworks, tools and experiences to an increased number of LMICs on practical approaches for developing and implementing NAPs on AMR. Technical support offered included national AMR situation analyses; developing, reviewing and publishing of AMR NAP documents; developing national antimicrobial stewardship (AMS) policies and frameworks and developing terms of reference documents for members of AMS committees in healthcare facilities.

In 2018, ReAct also conducted a small scale case study on antibiotic stewardship implementation in secondary level hospitals in Kerala India to gather...
concrete examples from LMIC contexts to identify barriers, document practices and share lessons learned for recommendations in NAP implementation.

In Zimbabwe, ReAct was instrumental in translating the Global Action Plan on AMR (GAP) into actions points at country level and bridging the gap between NAP development and implementation by mobilizing key actors, supporting the initial national multi-stakeholder meetings and funding the AMR NAP costing. ReAct partnered with the Global Antibiotic Resistance Partnership (GARP) and the Food and Agriculture Organization (FAO) in conducting an AMR situation analysis and providing technical assistance in the development of the AMR NAP. The AMR NAP was officially launched after being signed by the ministers for Health and Childcare, Agriculture and Veterinary Services in September 2017. Following up the priority areas in NAP implementation, RAN facilitated the development of a roadmap for developing national guidelines on antimicrobial stewardship in human health and piloting AMS programs in two hospitals. Implementation will be done in 2019.

In Kenya, ReAct Africa was part of the National Antimicrobial Stewardship Advisory Committee that reviewed the AMR situation analysis report and developed the country’s NAP on AMR. ReAct also participated in developing the national communication strategy on AMR. In its implementation plan, the Ministry of Health prioritized appropriate use of antimicrobials as a key focus area and requested ReAct’s support in developing national guidelines on antimicrobial stewardship. The draft guidelines have been developed and will undergo reviewing by stakeholders before being officially launched by mid 2019.

In Zambia, ReAct Africa offered technical and financial support to the Ministry of Health in the initial phase of implementing its AMR NAP. ReAct led a team of AMR experts in the country in developing a national antimicrobial stewardship policy, national guidelines for antimicrobial stewardship in human health and a national terms of reference document for antimicrobial stewardship committees in healthcare facilities.

In Nigeria, Tanzania and Uganda, ReAct Africa provided technical input to their situation analyses and draft AMR action plans. Both situation analysis reports and final action plans in these countries acknowledged ReAct for its contribution.

In some countries, the input from ReAct was fairly minimal, but without it, the process would have stalled. For example, upon the request from the Ministry of Health of Malawi, ReAct Africa offered editorial and production support for their AMR NAP, which was launched during the World Antibiotic Awareness Week (WAAW) celebrations in November 2018. This also highlights the fact that in the lowest income countries, minimal funding and technical support is useful in at least moving countries to the next step.

In India, ReAct facilitated the preliminary conversation on AMR as a public health threat mainly in the non-human sector. In 2016, ReAct contributed to the "Workshop on National Action Plan on Antimicrobial Resistance for developing countries," organized by the Delhi-based Centre for Science and Environment (an ARC member), focused on food animal production and the environment.

In 2017, ReAct provided input to the draft NAP on AMR and was involved in national consultations to facilitate its implementation. Simultaneously, ReAct engaged with non-human sectors and civil society organizations to sensitize them on the relevance of AMR in the current global context and the need for their support in the implementation of National and/or State Action Plans.

In 2018, ReAct continued engagement with farmers with the aim of understanding patterns of antibiotic use and mapping their challenges in restricting antibiotic use. ReAct advocated for the need to have local responses in addressing AMR in Kerala State. The Kerala Antimicrobial Resistance Strategic Action Plan was launched in October 2018. The action plan was developed through a collaborative exercise involving human, non-human and environment sectors. This contributed to Kerala becoming the first Indian state to launch an action plan for containing AMR.

In Latin America, ReAct has developed and maintained productive working relationships with academic institutions, social movements, activists and networks in Latin and Central America. Because of the political situation of many of the countries in this region, it has been difficult to engage directly with some governments. However, through interactions at various events, Arturo Quizpe, Head of ReAct Latin America forged a relationship with the Vice Minister of Health in El Salvador. Working together, the aim was to help El Salvador and other countries in the region develop NAPs. These efforts resulted in the International Program for Collaboration And Exchange Of Knowledge And Experience led by the Ministry of Health El Salvador in collaboration with the Pan American Health Organization (PAHO), ReAct Latin America, and the People’s Health Movement of Latin America in December 2015. As recommended and facilitated by ReAct, an intensified communication between the Ministry...
of Health, the Ministry of Agriculture and the National Medicines Authority was agreed upon and recognized as vital for cross-sectoral collaborative action. As a result of this process, ReAct was able to build a strong partnership with El Salvador’s Ministry of Health to advise them further on the development of national action on AMR.

When direct interaction with governments has not been possible, ReAct Latin America has been promoting community participation in the containment of ABR and has worked on strategies, guidelines and methods for community-based actions. A community action plan provides the community with information at the local level about critical causes of the creation and spread of antimicrobial resistance and processes by which communities can create strategies that will work in local circumstances, and promote health in its widest sense. In Ecuador, with ReAct’s support in 2018, community participation in developing and carrying out the first steps of a community action plan in Nabón led to increased awareness about ABR. In addition, a key learning was that to change antibiotic use in small animal production, the community first needed to develop economically realistic alternative practices.

Looking forward and lessons learned

Guidance and technical assistance provided by FAO, OIE and WHO has been an important asset in building capacity at national level. However, despite that 93 percent of all countries are in the process or have developed NAPs, most LMICs still lack technical and financial capacity for implementation. There is a lack of the wherewithal to move from theory to action once NAPs have been developed. From ReAct’s country experiences especially through direct interaction with African countries, it was observed that even with efforts in drafting NAPs, countries still struggle to get appropriate projection based on scientific premise or reliable economic models to inform budgeting and resource mobilization. It is imperative that a priority setting framework for NAPs be developed to support countries in effectively allocating scarce resources. This is a task that organizations like ReAct can work collaboratively with governments to achieve.

Over the past four years, more countries are successfully including Civil Society Organizations (CSOs) in implementation of their NAPs and are seeking further opportunities for this type of collaboration. But in certain countries such as India, AMR has not become a key priority for CSOs. Hence it is important for ReAct to identify commonalities and common entry points to facilitate involvement of these CSOs so that the NAP is owned by everyone and coherent support for AMR related issues facilitates implementation at local levels.

Along with different levels of NAP implementation efforts, some countries have begun sub-national actions. In Latin America, the lack of social participation or action at the community level was identified as a limitation in NAP implementation. With increased presence and expanded network at community level, ReAct is well positioned to support broader grassroots and civil society mobilization and advocacy towards relevant actors with the integration of community-based actions.
#2 Raise awareness on ABR as a multi-sectoral challenge that requires a proportionate response

Outcomes

- LMIC policy concerns are effectively addressed in global and regional policymaking processes, including the WHO GAP.
- An increased number of countries start working toward incorporating ABR in their national health strategic plans and policies and putting in place ABR/AMR policy mechanisms.
- Actions on ABR are initiated by other organizations.
- Understanding of issues relating to the need for effective antibiotics is increased in decision makers, health professionals and industry.
Throughout 2015-2018, ReAct worked to raise and increase awareness of ABR at global, regional and community levels. We aimed to translate knowledge and encourage a holistic, multidimensional understanding of ABR into concrete, practical and effective actions. The numerous publications and public awareness videos brought out by ReAct in various socio-cultural contexts, have influenced the level of awareness around antimicrobial resistance and helped to gather more allies from related sectors including environment, development and poverty alleviation. We have been able to identify the synergies with multiple other groups and has spawned a number of collaborations in various domains.

Awareness raising – a holistic response to ABR

ReAct takes a comprehensive and holistic view on ABR and communicates the dynamic interconnectedness of the health of humans, animals, microbes and ecosystems. ReAct Latin America has been leading a process of collective construction of knowledge and practices through dialogue among a wide stakeholder network to build proposals and activities to promote holistic responses to ABR. Seminars, workshops and focus groups have provided information, experiences and passion in the search for an alternative way to deal with ABR.

The convening power of ReAct Latin America reached an extraordinary milestone in 2017 with the conference “Madre Tierra Una Sola Salud” (Mother Earth: One Health). The conference gathered approximately 500 professionals in human, animal and environmental health from 28 scientific organizations and 16 different countries for a weeklong meeting in Argentina at the University of Rosario. The conference provided a platform for participants to discuss and exchange best practice experiences on cross-sectoral action, as well as sharing strategies and experience in tackling bacterial resistance as a complex, multifactorial social issue. In conjunction with this conference ReAct developed and published a factsheet on the Human Microbiome in both Spanish and English. The winners of the story-telling competition “Contemos Nuestras Bac-historias: De Cuando La Ciencia Redescubre Su Corazón” (Telling Our Bac-stories: When Science Rediscovers Your Heart), was announced during this conference (and their stories were published in a booklet later in 2017). Finally, a Conference Declaration which called for more urgent and unified political action in tackling the inappropriate use of antibiotics in human, animal and plant health in the region was developed.

In 2018, ReAct hosted multiple seminars and conferences for awareness raising among multiple stakeholders. One example is an international conference in La Paz, Bolivia, in May 2018. Here the first steps were taken toward defining the concept and characteristics of an ‘antibiotic smart community’. ReAct drafted a statement at the conference on “New relationships between humanity and bacteria”, which was endorsed by numerous social, environmental and health organisations in Latin America. The statement called for greater recognition and respect for the contribution of bacteria to life-sustaining processes on our planet and the need to focus on more positive nuanced narratives instead of a “war on bacteria” – a war we could never win. The Alforja educativa, an educational resource for children (see Objective 4) also encompasses these teachings.

The above-mentioned work all support the LFA outcome on change in perception of bacteria among various stakeholders from fear of all bacteria to a more balanced view and towards a more holistic approach to address ABR.

World Antibiotic Awareness Week

Already from its inception, ReAct has been engaged in awareness raising on ABR. In 2014, ReAct was one of five organizations selected by ECDC to make a statement in connection to the European Antibiotic Awareness Day and ReAct worked to create momentum for an Antibiotic Awareness day in Asia. In 2015, thanks to ReAct’s and other’s efforts, WHO launched the first World Antibiotic Awareness Week (WAAW). Since then, ReAct has been active during the annual WAAW in engaging new organizations and champions, to create an online and on-the-ground movement and highlight new material produced,
for greater uptake. The series of efforts and engagement in creating and promoting WAAW responds directly to the LFA outcome of establishing a global antibiotic awareness campaign.

In 2018, ReAct focused on regional activities and global online communication for WAAW. ReAct’s regional nodes organized around 40 activities to raise awareness, change behaviors and increase understanding of antibiotic resistance as a multi-sectorial challenge among the general public, media, students, policy makers and health care professionals. ReAct organized seminars, community workshops, media workshops and civil society meetings in Kenya, Uganda, Malawi, Zimbabwe, Nigeria, Sierra Leone, Indonesia, Thailand, India, Ecuador and Argentina. We interacted with media, conducted campaigns, carried out awareness walks and carnivals. More innovative activities such as body paint, a theater and a photo competition were also carried out during the week.

The regional activities helped to mobilize community engagement and also to build the respective nodes’ network in the regions. For example, WAAW engagement has led to stronger collaborations between ReAct Africa and various government departments such as the Department of Veterinary Services in Kenya. As a result, a project on Antibiotic Smart communities/farms project was initiated in 2019. The same is true for ReAct Asia Pacific and its engagement during WAAW in Thailand – activities and events offer an opportunity to bring existing collaborators such as Ministry of Health officials, universities and civil society organizations, together to work on AMR as a priority issue.

As for online engagement and awareness raising, ReAct created content focusing on the regional activities, civil society engagement, access to antibiotics, food animal production in material, articles, interviews and social media cards. We also shared contents from other organizations, such as WHO, Food and Agriculture Organization (FAO) and World Organisation for Animal Health (OIE). During the week, and all of November, our numbers for online activity increased significantly. ReAct also has amplified civil society’s efforts for World Antibiotic Awareness Week through communications among ARC members and reporting in the ARC newsletter. In November 2018, ReAct’s Twitter account gained more than twice the number of followers as compared to other months of the year, and our reach, as measured by impressions, was also more than doubled. Same goes for mentions and visits to our Twitter account – both increased with more than 100% during November. Facebook and LinkedIn also increased in interaction and numbers. Visits to our website increased with almost 250% compared to the lowest month of 2018.

Media can help raise awareness and change behavior

Journalists and media play an important role in raising awareness and supporting the public debate on ABR. Engaging journalists and media in particular in LMICs has been a strategic focus for ReAct. During the last four years, global media’s interest in and coverage of these topics has increased in the same way as the number of stakeholders interested in ABR is increasing. ReAct has been working to help media with correct information and promoting understanding of their critical role in changing the narrative. Initial media briefings were held in Jakarta, organized by ReAct Asia Pacific in collaboration with WHO Indonesia, journalist associations, YOP (Concerned and Caring Parents’ Foundation) and the Ministry of Health. In the following years, ReAct has organized several media briefings and media training workshops in Kenya, India, Indonesia, Argentina and Ecuador. Topics included ABR as a one health challenge, the microbiome, health and nutrition, antibiotic use, etc. These events have resulted in over 50 published articles, engagement in radio shows, press and national TV programs.

In addition to the above-mentioned events, ReAct staff regularly engages media by being invited as experts to tv-channels, engaging online and by writing articles and opinion editorials. One example is that ReAct was invited as expert to talk about overuse of antibiotics, lack of antibiotics and antibiotics in food by Al Jazeera’s The Stream for a show on ABR streamed on 18 October 2017. In Swedish media, Otto Cars and Anna Zorzet are often invited as experts when ABR is covered in TV and newspapers. During 2018, ReAct also participated in radio shows in Ecuador, Indonesia, India and TV shows in the African region and Sweden. Another example is that Nikkei Asian Review, a global media organization, published a detailed article on the use of antibiotics in the poultry sector in Thailand based on a report prepared by ReAct Asia Pacific and quoting various sources including ReAct Asia Pacific partner Drug System Monitoring and Development Center in Bangkok. The article was a direct result of
the node’s outreach to international media organizations, based in Asia, to disseminate its report on antibiotic use in food-animal production in South and South-East Asia.

Broadening the range of campaign tactics to social media, the Antibiotic Resistance Coalition also banded together in January 2018 to deliver a Thunderclap message via Twitter to 660,000 people advocating for more responsible use of antibiotics in food production. Timed with the Prince Mahidol Award Conference in Bangkok where these issues were being discussed, this collective effort brought in supporters from all corners of the world. Coinciding with this effort, ReAct published an opinion editorial for the Bangkok Post underlining the need to stop the use of antibiotics in livestock for growth promotion and to curb routine preventative use when no disease is diagnosed.

Increased online presence

Over the past four years, ReAct has increased our online presence continuously, through our own growing channels. In 2016, ReAct did a full redesign of www.reactgroup.org to strategically align the site with our core purpose and messages and to produce content interesting for our target groups. The new website is also a calling card for other stakeholders to contact ReAct. As a result, sessions on ReAct website increased with more than 250% from end 2015 to end 2018. We also created a webpage and social media accounts in Spanish specifically targeting the Latin American audience.

Twitter is ReAct’s strongest social media channel, which has increased with 370% more followers by December 2018, compared to baseline in December 2015. Facebook increased with 130% from December 2015 to December 2018. In March 2017, we started a LinkedIn account that has grown into 250 followers. We post moderately to our LinkedIn account but it is a valuable channel for specific type of posts, such as new positions at ReAct and certain updates within science and policy.

ReAct also redesigned the ReAct Newsletter regarding content and layout in 2016. The newsletter is now published every third week and an editorial team was put together at ReAct Europe to produce content. A process to get strategic content from all of the nodes has also been developed. Much of the content on the website is derived from the Newsletter, this re-purposing of material expands the reach of ReAct’s messages more efficiently. In 2018, the ReAct Newsletter has 1389 total subscribers. From the redesign of the newsletter in October 2016, we have 405 additional subscribers – a 40% increase.

Looking forward and lessons learned

We live in a time where we face thousands of messages every day. Much communication around the ABR topic has focused on the threat of ABR using a rather technical language, and ReAct has tried to find alternative narratives for improved understanding and awareness on ABR as a systems challenge that requires multi-sectoral response. We also need to continue to work to find ways to move beyond awareness-raising to induce behavior change. During the past four years, ReAct’s online presence, website, newsletter and social media, especially Twitter, have become important sources for media to learn and pick up interesting topics. With a strategic change in content production, ReAct has increased attention from our target groups from animal to human sectors, reaching a wider group of audience, promoting the understanding of ABR as a One Health concern and expanding ReAct’s messages and impact.
ReAct has been instrumental in highlighting the One Health nature of ABR and has been advocating for a strategy to include all stakeholders in the response process. Antibiotic use in food animal production is very high and results in not just greater ABR spreading through the food chain but also environmental pollution around farming facilities. Importantly, the security of the food system and the appropriate use of antibiotics in food production concern every person in society. This makes our interventions in the food and animal health sector strategically very important.

There needs to be a comprehensive and rational evaluation of the costs of reorienting food production systems to achieve a lower level of antibiotic use. While the global narrative on the use of antibiotics in food animal production has been around banning their use as growth promoters, the investments needed for transition and the livelihood issues associated with it, have to be factored into any regulatory measures. ReAct has tried to create an alternate narrative about food production and consumption. The socio-cultural norms which helped shape culinary preferences of populations, can also be utilized to ensure sustainability in food production systems. The cultural influences can be a tool which can aid in the understanding of basic concepts such as the value of good nutrition, association between good food and health and food influencing the human microbiome. All these can be harmonized into a broader message to move from intensified production systems to sustainable agricultural practices, which includes less routine use of antibiotics.

During 2015-2018, ReAct has brought out multiple publications and community engagement tools to help people understand these complex concepts. The following highlighted activities and corresponding results support the LFA outcome on increased awareness about the effects of antibiotic use in the agricultural and veterinary sectors.

In 2016, the UK Review on AMR commissioned ReAct and the Johns Hopkins Center for a Livable Future, then headed by Anthony So, to complete a background paper, “A Framework for Costing the Lowering Antimicrobial Use in Food Animal Production”. This study assessed the existing evidence and the gaps in research in this area. The study’s release coincided with the final report of the UK Review on AMR.

Since 2017, ReAct has been networking with CSOs in Thailand, Malaysia and Indonesia to develop a campaign for policy changes and raise public awareness on antibiotic use in food animal production.

Apart from advocacy efforts and a campaign
in Thailand, ReAct has produced situation analysis booklets with tailored content such as in-depth numbers and analysis on antibiotic use and policies. A specific set was released in India, Indonesia, Malaysia and Thailand during World Antibiotic Awareness Week in 2018, with language and content tailored to these countries. Since 2018, efforts are also underway to convince Ministries of Agriculture and Health in Malaysia to sponsor pilot projects that help farmers carry out the transition away from antibiotic use in their farming practices. The publications ReAct produced or supported have been used to synthesize opinion among multiple stakeholders like governments, experts and farmer representatives.

The departments of animal husbandry and fisheries in the state of Kerala, India, were engaged through a workshop and created momentum towards adopting a sub-national action plan in the region described earlier. In 2018, ReAct Asia Pacific organized a series of sensitization workshops for aquaculture, poultry and dairy farmers in Kerala, India on the concept of ‘Antibiotic Smart Farms’. The aim was to build awareness among farmers about the issue of antibiotic misuse and ABR; to make the owners of animal husbandry and fisheries farms aware of internationally accepted norms on biosecurity and biosafety; to understand the market for meat and fisheries products, and to initiate action to create a market for antibiotic smart products among the consumer of the state of Kerala. The intent was also to document the challenges involved in transitioning towards a system with rational antibiotic use. A landscaping of the Indian poultry industry was also done, to look at the value chain and procurement models followed by large Quick Service Restaurant Chains. The Value Chain Analysis report has been prepared as a booklet for publication. All these efforts are being used as levers of policy change, by involving governments at the highest level of decision making.

Harnessing consumer power

Building consumer awareness about antibiotics in food and shaping the demand for food produced without routine use of antibiotics, requires extensive collaboration with consumer groups. ReAct, through its work in the Antibiotic Resistance Coalition (ARC), has attracted wide attention among all the consumer organizations and helped to galvanize public opinion regarding the misuse of antibiotics in food animal production. For example, ReAct together with Consumers International and other CSO partners took the campaign ‘Antibiotics off the Menu’ to Latin America in 2017. To enhance the effect, ReAct Latin America also embarked on a research project to investigate the use of antibiotics in small farms, such as the use of colistin, a last resort antibiotic, in chicken farms. In addition, community workshops were held focused on recovering traditional practices in food production, without use of antibiotics.

Work has also focussed on teaching consumers about nutrition in general and the ecological effects of antibiotic use on the human microbiome. ReAct’s work in the consumer space culminated in the meeting “Globalizing Food Campaigns: Sharing Strategies to Address Antimicrobial Resistance” in Bangkok, Thailand, in December 2018. This meeting was attended by more than 40 civil society representatives from across the world and has resulted in the “Bangkok Declaration on Antimicrobial Resistance, Food Systems and Farming” outlining the strategies which can incentivize reduction in antibiotic use in food animal production, while ensuring that principles of equity and sustainability are followed. This line of work has resulted in improved intersectoral collaboration among NGOs on issues of shared concern on ABR.

Looking forward and lessons learned

Overall, it has been a successful four years for ReAct in the domain of antibiotic use in agriculture and food production. Our policy positions, articulated through workshops and publications have enabled us to successfully initiate a debate around the sustainability of current production systems and the alternatives available to us. Through our engagement with poultry, dairy and aquaculture farmers and efforts in sensitizing them, we realised that there is a need for a transition fund or financial incentives to hedge against potential economic losses in the view of low antibiotic usage. Therefore, the cost of and strategies to incentivize transition without jeopardizing livelihoods need to be further explored through our work to translate increased awareness into more sustainable food production and agricultural practices.
#3 Strengthen existing and develop new partnerships in order to advance the multi-sectoral response to ABR

Outcomes

- Other organizations integrate work on ABR on their agenda.
- Improved intra-regional, cross-border collaboration among ReAct network partners.
- Improved inter-sectoral collaboration among NGOs and intergovernmental agencies on issues of shared concern on antibiotic resistance.
During 2015-18, ReAct continued activities to strengthen its existing network of partners and develop new partnerships for improved multi-sectoral response to ABR. ReAct has led coordination and communication activities related to new inter-sectoral partners, including the convening of the Antibiotic Resistance Coalition (ARC) and creating a network of ABR champions. Together, civil society groups collectively have brought breadth in expertise and advocacy networks to the challenge of AMR. It has also lifted up the voice of low- and middle-income countries onto the policy agenda of leading civil society groups.

Mobilizing civil society across sectors through the Antibiotic Resistance Coalition

The Antibiotic Resistance Coalition, or ARC, debuted at the World Health Assembly in May 2014. Today its ranks include over 25 civil society groups, North and South, working on both human and animal use of antibiotics. With the South Centre, ReAct has facilitated a yearly discussion—four years so far—between civil society groups in the Antibiotic Resistance Coalition and the WHO’s senior leadership on AMR. The three-hour dialogue, structured around key topics of concern to civil society and particularly low- and middle-income countries, alternates between presentations by senior WHO officials, usually the Assistant Director-General and the Director of the AMR Secretariat, and civil society interventions. For both members of the ARC and a broader audience of policy influencers, ReAct produces a monthly newsletter covering Coalition actions, policy updates, research round-up, and quick takes. The ARC newsletter has provided an annual review of activities in 2016, 2017 and 2018 as well as of ReAct and ARC contributions to World Antibiotic Awareness Week (November 2017 and November 2018).

In May 2018, ReAct co-organized a civil society strategy meeting in Geneva for ARC members and civil society partner organizations. At this meeting, civil society groups not only share stories of their campaign work, but also in breakout sessions, discuss how to address challenges ahead. The May meeting in Geneva also allowed for many groups to participate in the WHO-NGO Dialogue in person, and the UN IACG Subgroup working on innovation and access issues also took advantage of the opportunity to elicit civil society input into their work. These in-person meetings complement the ARC teleconference consultations that have resulted in a stream of joint policy statements, from comments on the IACG Work Plan Consultation Submission and IACG papers put forward for public consultation to the Tripartite Monitoring & Evaluation framework (from both perspectives in human healthcare and animal use of antibiotics).

As demonstrated by the independent submissions by ARC members and partner organizations during the public consultation period for the IACG’s draft recommendations, ReAct’s work through the Coalition has effectively enabled other organizations to integrate work on antibiotic resistance on their agenda.

The Antibiotic Resistance Coalition has brought both greater intersectoral perspective and reach to ReAct’s work, and ReAct has also lifted these AMR issues from the food system and environment to global policymakers through ARC’s work. The Coalition has served to bring different civil society perspectives to bear on AMR challenges, such as antibiotic pollution into the environment. Environmental NGOs have noted not only the effluents from pharmaceutical manufacturing, but also the point-source pollution from hospitals and factory farm run-off. Groups involved in healthcare access have cautioned over approaches that might jeopardize a fragile supply chain for some antibiotics, and others like Healthcare without Harm have provided tools for the handling of pharmaceutical waste in the hospital setting.

Creating a network of ABR-champions in Africa

Background

In 2013 and 2014, ReAct was engaged in a process to strengthen African networking on ABR. Ultimately, in 2014 this led to the formation of ReAct Africa, by the participants of a key stakeholder workshop, “Championing African Action on Antibiotic Resistance: strategies and innovative solutions”. Dr. Mirfin Mpundu, the current head of ReAct Africa, was at the workshop and selected by its participants as the main contact point. 2015 was the first year that ReAct Africa had a budget, as activities up until then had been mainly on a voluntary basis.

Creating a network of champions

From its inception, a key working strategy of ReAct Africa was to create a network of ‘champions’; individuals and organizations that were already passionate about the cause of ABR, or that could take up the cause through engagement by other champions. Most of the National AMR focal persons are ABR champions. These champions have implemented a number of activities as a result of ReAct’s technical support and seed funds. Some have established antimicrobial stewardship programs - for example in Zambia, Nigeria and Kenya. Other ABR champions have contributed to the
development of their country NAPs through ReAct’s support, conducted different activities during the yearly World Antibiotic Awareness week, lectures in hospitals and universities, given TV and radio interviews, hosted AMR symposiums and awareness raising walks.

ReAct has also signed memorandums of understanding with the ministry of health in Zambia and Zimbabwe. In 2016, ReAct Africa signed a memorandum of understanding with the Global Antibiotic Resistance Partnership (GARP) to work together in supporting African countries on ABR and developing NAPs. This collaboration resulted in the development of AMR situation analyses in Kenya and Zimbabwe, followed by National Action Plans (NAPs). Because of ReAct’s multi-stakeholder perspective on approaching AMR, a higher level interagency interaction has taken place in Uganda, Kenya, Zimbabwe, Zambia, Ghana and Nigeria. As pointed out by the WHO, involvement of all sectors is key for successful NAP development.

ReAct Africa also brought the voice of Africa to the regional and global ABR debate as part of a technical working group with WHO, FAO, OIE, civil society organizations and academia to develop a tool to measure consumption of antimicrobials at country level. WHO piloted the tool and it was made available to member countries by the end of 2016. ReAct Africa also supported and participated in regional meetings with the UK Department of Health, the Fleming Fund, WHO and the African Union Center for Disease Control and Prevention (African CDC).

As Mirfin Mpundu, Head of ReAct Africa, has also been the executive director of EPN (Ecumenical Pharmaceutical Network), naturally there has been sharing of information between ReAct and EPN. In 2016, this led to EPN taking up AMR as one priority area in their strategic plan.

Annual Regional Conferences on AMR

ReAct Africa identified a gap in the lack of a meeting space where champions and other key stakeholders could discuss and share experiences; and thus the ReAct Africa regional conference was born. The conference is also an opportunity to build capacity on specific topics such as the relevance of ABR for achieving the SDGs, NAP implementation, stewardship of antibiotics to mention just a few.

In 2016, the conference’s theme focused on providing support to countries in the development of National Action Plans. The conference provided a forum for exchange of experiences from different countries in Africa. Tools in the ReAct Toolbox that would support countries through the NAP development process were presented and discussed. The meeting brought together champions in human health, veterinarian health, academia and governments from 11 African countries.

In 2017, the theme of the annual conference was "National Action Plans on Antimicrobial Resistance: Progress made, Common challenges faced and Possible Solutions". It was attended by national AMR focal points and AMR champions from 16 countries in Africa. Ten countries (Mozambique, South Africa, Nigeria, Ghana, Ethiopia, Zimbabwe, Kenya, Malawi, Uganda and Zambia) presented their country level experiences on National Action Plan development and shared updates on their implementation efforts. The conference identified six challenges and seven areas that needed to be monitored in the implementation of NAPs.

In 2018, the conference’s theme was "Combating Antimicrobial Resistance in Africa to achieve the 2030 Agenda". The three-day conference brought together almost 70 participants from 22 African countries. The three-day conference identified successes, challenges and recommendations for the implementation of NAPs in relation to SDGs and One Health including governance. The conference provided an opportunity for discussions on the link between SDGs and AMR and how the failure to address AMR would impact attainment of the 2030 agenda on sustainable development.

The ReAct Africa Annual Conference began with 10 countries but has grown to over 20 countries in participation, coming from the sectors of human health, animal health, agriculture and environment.
sector. The conference has created a platform for exchange, cross-learning and provides South to South exchanges. The conference also plays a major role in building capacity on AMR for key stakeholders from various countries. Beyond being a conference, it has been a ‘training school’ on ABR/AMR for most people and ReAct’s Toolbox has provided great resources for countries to use (see section further below).

Community of Practice

The WHO has built an online discussion forum, to support countries and individuals working on AMR. ReAct has been requested multiple times to provide input to the discussions and they recommend the ReAct Toolbox in their resource library. In 2018, the Head of ReAct Africa Mirfin Mpundu was also requested by WHO to lead an online global discussion on engagement on Faith-Based Organizations (FBOs) and CSOs in the development and implementation of NAPs. FBOs provide between 20 to 40% of health care in sub-Saharan Africa. The discussions highlighted interventions performed by FBOs to contain AMR that could be adopted in the public health institutions.

Regional AMR Research Prioritization Workshop

In 2018, ReAct Africa supported by the Swedish International Development Cooperation Agency (Sida) hosted the first ever regional AMR research priority workshop in Nairobi, Kenya. The workshop attracted 70 participants from 32 countries in Africa. Participants included experts in human health, animal health, agriculture, environment, social sciences, research, academia and non-governmental organizations among others.

Research priority setting is important to ensure that limited resources are allocated appropriately, efficiently and effectively to research focus areas that are significant, meaningful and where there is a need. Ethical, appropriate and effective research priority setting ensures that local and regional priorities receive primacy; that research priorities work for equity in health; research focuses on the needs of the most vulnerable groups of the population and reinforces the links between research, action, policy and development.

The results of the research prioritization exercise which brought together researchers and AMR experts, concluded that the top three areas that required AMR research in Africa were environment, commerce and investment. In total 324 research questions were generated across animal, human and animal sectors. These research questions can be used by Sida for future grand challenge calls.

Looking forward and lessons learned

Over the last four years, networks of champions, coalitions, communities and movements to address ABR have emerged, including the ARC, which was initiated and whose Secretariate is supported by ReAct. All these efforts contribute to all the LFA outcomes under objective 3. In the course of our work, we have recognized that stakeholders focused on ABR are few and far between to sufficiently respond to the multi-dimensional and global challenge that ABR represents. With a strong convening power, ReAct is well positioned to use existing or create new forums that can facilitate the continued building of strategic connections and collective mobilization to tackle ABR across sectors. Together with partners, ReAct’s ability to generate opportunities to influence discussions at the national and international level is amplified.
#4 Identify, pilot and document innovative approaches to change behaviors influencing the ABR situation

Outcomes

- Other organizations integrate work on ABR on their agenda.
- Stakeholders commit to adapting and extending the practices in their locales.
- ReAct pilot projects are taken up and implemented in other settings.
Over the past few years, ReAct has introduced, promoted, seed-funded and developed several innovative and effective initiatives at community, school, hospital and policy levels, in collaboration with partners around the world. ReAct has worked to share, adapt, evaluate and extend best practices to other locales, through the development of related materials, study visits, seminars, trainings and workshops.

Innovative educational tool - Alforja Educativa

Many of the initiatives described above have taken place in Latin America and have resulted in strategically selected approaches taken forward in the following years. As an example, one of the projects that was born out of the former Sida-funded Civil Society Organizations-Project, is the Alforja Educativa or “Educational Knapsack” - a series of educational materials to teach children about antibiotic resistance.

The Alforja Educativa is an innovative ReAct initiative based on one ReAct Latin America’s foundational strategies: to stimulate social mobilization in order to address ABR. It is focused on educating children and teachers and utilizes schools as actors in awareness raising and social mobilization. It contains songs, videos, activity guides, and a children’s book of bacteria stories written by children. The Alforja comes with a teacher’s guide in how to implement the materials in a series of workshops with the children.

After pilot testing with several rounds of feedback and iteratively improving the content, in 2017 ReAct led a research team to evaluate the effectiveness of Alforja and assess the feasibility of scale up and into different geographical and social contexts. 1250 children from 20 schools in Cuenca, Ecuador were enrolled in the study. Results revealed significant changes in children’s perceptions and knowledge on health, microbes and antibiotic resistance. In 2018, an article “Educational Alforja: Educomunicative Material and its Impact on the Knowledge and the Perception on the Microbial World and the Bacterial Resistance in Students of 9 and 10 years In Cuenca, Ecuador” was produced for publication.

The focus on the “Child to Child” methodology helped these younger generations to become health promoters and advocates for their peers and their communities for change.

The Alforja has grown beyond being an awareness-raising tool to engage more actively with a wider variety of stakeholders in workshops, seminars and training programs in Latin America. Many people, groups and institutions from Argentina, Bolivia, Peru, El Salvador and Ecuador have actively engaged and adapted it to local contexts and environments. Several workshops have been carried out in Bolivia, Argentina and Ecuador with the purpose of training new promoters. Children have been actively participating in writing books of bacterial stories such as “From the smallest to the smallest of the planet – bacterial stories 2”.

During 2018, while continuing the work to spread awareness about the Alforja in the region, the contents were also translated into English as a first step in distributing this educational model to other countries and contexts. Through joint work between ReAct’s regional nodes, the Alforja with the Child to Child methodology is being adapted to the Kenyan context. The team revised materials following a Review Guide to adapt to specific culture context and coordinated with the Kenyan government and local implementing partner Ace Africa to develop the adaptation proposal for pilot implementation in Kisumu-Siaya in 2019. The adaptation of methodology and scale-up of the Alforja project correspond well to the LFA outcomes that stakeholders commit to adapting and extending the practices in their locales and that ReAct pilot projects are taken up and implemented in other settings.

Mobilize future AMR champions: student engagement

Younger generations form an important target for AMR communications as they are considered to be future champions and leaders of change. ReAct has worked through different formats to engage students globally. In Asia and Latin America, ReAct has also been active in student club activities, held multiple
workshops and participated in national and regional events in coalition building. In 2018, ReAct launched the Antibiotic Stewardship and Prevention of Infection in Communities (ASPIC) clubs initiative in India and has been supporting a series of club activities in various locations.

In 2018, in collaboration with the International Federation of Medical Student Associations (IFMSA, which represents 1.3 million students from 127 countries), ReAct and the IDEA (Innovation+Design Enabling Access) Initiative at the Johns Hopkins Bloomberg of Public Health inaugurated the first global competition inviting students from around the world to design innovative solutions for antimicrobial stewardship in resource-limited healthcare settings. Innovate4AMR asked student teams to propose strategies to tackle the underuse, overuse and misuse of antibiotics prevalent in a range of settings, from hospitals and clinics to outpatient pharmacies. With over 1000 people signed up for the listerv, Innovate4AMR received 145 proposals from student teams around the world. After several rounds of judging, first by an IFMSA-ReAct-WHO Technical Review Panel and then by a panel of Expert Judges, eleven winning teams from Peru, India, Uganda, Honduras, Nigeria, Canada, the Philippines, the USA and China were selected. Students from these teams were invited to a three-day, capacity-building workshop in Geneva during World Antibiotic Awareness Week in November 2018. This was organized with the support of the WHO and the South Centre. Students had an opportunity to present to a panel of expert judges from WHO, heard from various AMR experts, and received training to improve their proposed projects. Importantly, they found in one another a cohort of similarly committed, future champions for antimicrobial stewardship. Following the competition, at least eight of the eleven teams have reported continued progress on their proposed projects.

Engaging Faith-Based Organisations in hospital stewardship programs

During January 2017 to December 2018, ReAct Africa together with EPN conducted a multi-country project with the aim to reduce antibiotic use and resistance. 4 countries were selected: Cameroon, Democratic Republic of Congo (DRC), Ghana and Uganda. The facilities chosen were church health institutions governed under church health associations that are EPN members. Several criteria were used to select the facilities enrolled in the project such as that they offered in-patient services, had a Medicines/Drug & Therapeutic Committee (DTC) at the time of enrollment – whether active or dormant and that the administration had given approval for the project activities to be conducted at the facility. Four health facilities were selected from each of the four countries, initiating a total of 17 facilities into the project.

The specific interventions to reduce resistant infections and use included establishment of Infection, Prevention & Control (IPC) committees and/or IPC champion through which hand hygiene interventions, tracking of hospital acquired infections (HAIIs) and other IPC-related activities (as prioritized by the respective facility, such as waste management, e.t.c.) were steered. The DTC activities ensured that the facilities’ DTCs established or revived systems that strengthened good stewardship of antibiotics in the facilities, coupled with adherence
to standard treatment guidelines. Results from the study will be published in 2019, but initial data suggest an increased number of IPC and stewardship committees established/strengthened, an increased adherence to standard treatment guidelines and even a decrease in the number of hospital acquired infections.

**Looking forward and lessons learned**

ReAct has been working to develop new concepts, pilot projects and innovative approaches to encourage and equip individuals, students and professionals to take action and change behavior. These approaches are highlighted through piloting new programs and interventions through our networks in Latin America, Asia-Pacific and Africa. We recognize the limitations of pilot projects and innovative models and we have tried to consider sustainability of stakeholder engagement, project scale-up and adaptation as well as following up behavioral changes and sharing of best practices. ReAct has been constantly reflecting on these considerations, moving forward with more thorough strategic discussions and will continue mobilizing resources for innovative approaches to influence the ABR situation.
#5 Enable action on ABR by providing expert advice, stimulating research and maintaining an open access knowledge center

Outcomes

- ReAct is a trusted source of information on antibiotic resistance and is able to act as an advisor.
- Stakeholders, particularly in LMICs, have increased access to reliable information on ABR, including best practices, that enables them to take action.
- Networking among organizations and individuals working on ABR is increased.
- Other organizations incorporate work on ABR in their agendas.
- ReAct and our stakeholders are updated on the policy landscape and are able to lay out innovative and forward-thinking policy approaches to tackle antibiotic resistance affecting global and local processes.
Scientific evidence and advice for advocacy

One important role for ReAct is to provide other stakeholders with reliable scientific information to support their own work. This role has many facets, from creating targeted material towards certain organizations, to presenting information in an easy-to-access format online. As ReAct is one of the oldest organizations fully dedicated to the issue of ABR, we have built up our credibility over the years, which means we are more and more sought after in this role.

Engagement of the United Nations Children’s Fund (UNICEF)

As mentioned above, ReAct creates targeted materials of key importance for our advocacy efforts. One example is three fact sheets describing the impact of ABR within the fields of health, WASH and nutrition, and providing options for action at the request of senior UNICEF staff. These were used in briefings for UNICEF in 2016, where ReAct was invited to New York to present for the regional managers of the three areas. This work supported the LFA outcome of other organizations incorporating work on ABR in their agendas, and efforts to engage UN organizations in the policy discussions. UNICEF is now developing a technical briefing note on AMR outlining the work and opportunities for the organization, which ReAct has also been invited to comment on.

After the briefings the factsheets were adjusted for a broader audience to enable spread in UNICEF’s and ReAct’s extended networks. As these factsheets lift wider perspectives of ABR they have been useful on a number of occasions, for example as technical input to a request for information from WHO for an AMR-WASH policy brief.

Massive Open Online Course

In 2015, in a collaboration between ReAct Europe and Uppsala University, work on a Massive Open Online Course (MOOC) was started. The course was launched in 2016 with over 7000 people enrolling. Overall, the course received very positive feedback and was commended for being well planned and for translating the academic knowledge to the public, which captures the ambitions ReAct had. Participants came from all over the world (a map of participants can be found at https://www.zeemaps.com/maps?group=2021437). The course feedback showed not only an increased awareness of ABR, but also inspiration by participants to take action.

Stakeholder mapping

ReAct Europe was approached by WHO to conduct a stakeholder mapping of the ABR field. This was chosen as a strategic opportunity to strengthen ReAct’s relationship with WHO, and also be useful for ReAct’s own work. ReAct were invited to present the findings, including a deeper analysis of different initiatives in presence to the AMR division at WHO headquarters in Geneva in 2016. The stakeholder mapping has also proven useful for others. As an example, Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) funded research network GAP-ONE is using it to identify stakeholders for gathering knowledge on the resource waste caused by AMR. This is but one example where the LFA outcome of ‘ReAct and our stakeholders are updated on the policy landscape...’ is fulfilled.

Looking forward and lessons learned

The LFA outcomes described under this objective on increasing networking and other organisations incorporating ABR in their agendas are core to what ReAct does. Hence, examples of successfully meeting these outcomes can also be found under previously described objectives.

Looking forward, ReAct is likely to continue to work in the same manner, acting as a catalyst. However, the complexity increases as organisations do not only have to come together and become aware of ABR, they increasingly are looking to ReAct to help provide answers on what should be done. This, of course, requires much more time and effort, but is in our minds a valuable contribution.

The ReAct Toolbox – a resource for policymakers, health professionals and civil society

In 2015 ReAct launched the Toolbox, an online repository on ABR that provides open access information, guidance and tools to support action across the world, with a specific focus on LMICs. The Toolbox was developed to respond to an identified but unmet need of the ABR community at the time: the need for a tool collecting relevant material on ABR in one place. With the ever-expanding wealth of information available, it is often difficult to find the best resources and practices, and knowing how to get started. With its 6 different focus areas (Understand, Raise awareness, Measure, Rational use, Prevent infection and Policy), the Toolbox provides a comprehensive base to assist work and capacity building in different settings.

The launch of the Toolbox was announced at
In the ReAct Toolbox: Six focus areas to facilitate action

- Understand the problem
- Raise awareness about antibiotic resistance
- Measure antibiotic use, resistance & progress
- Promote rational use
- Prevent infection
- Change policy

a side event at the World Health Assembly in 2015. Later on, WHO officially endorsed the Toolbox and ReAct was invited to present it at the First Regional Workshop on National Action Plans in the WHO Eastern Mediterranean region. Over the years, ReAct has held numerous presentations and workshops on how to use the Toolbox including in Africa as part of the ongoing NAP support to countries. ReAct has also promoted the Toolbox through our own social media channels and our newsletter. With additional external funding, the scope of the Toolbox was expanded in 2016 to encompass also the animal sector.

To increase quality assurance and relevance of the Toolbox, an international advisory group was formed in 2018. The group now includes six renowned ABR experts, most with extensive experience from LMICs. Through advisory group member Dr. Delia Grace, an opportunity arose to organize a writeshop co-funded by the Consultative Group for International Agricultural Research (CGIAR) network. It brought together researchers working with antibiotic use and infection prevention in the food animal sector, and resulted in content and structure-revision in the Toolbox, capacity building within the ReAct Europe office as well as network building in the food animal sector.

Overall, a main focus has been to provide well selected information and links to high quality resources and tools aimed to help policymakers, health care professionals and civil society organizations working on ABR. The Toolbox is a major scientific work of ReAct, and it currently contains over 100 pages and more than 500 quality reviewed open access resources; all freely available online. ReAct has also developed and published many examples from the field to inspire visitors to action.

External views of the ReAct Toolbox

The Toolbox has received much positive feedback and has been recommended by numerous prominent people and organizations, including WHO and the IACG. In 2017 the Toolbox was selected and featured in the WHO collection of educational resources on AMR for the Health Workforce, and it was also recommended by users in WHO's online community of practice. The IACG, in its discussion paper “Antimicrobial resistance: national action plans”, highlights and links to the Toolbox as a resource to assist countries. At a call to action conference in Ghana in November 2018, Matthew Stone, Asst. deputy DG for Animal Health at OIE promoted the Toolbox as one important tool for NAPs on AMR. It has also been highlighted as a key resource in documents by organizations such as the Systems for Improved Access to Pharmaceuticals and Services and the British Society for Antimicrobial Chemotherapy.

“We are very impressed by the ReAct Toolbox, and it is a concrete tool to help nations with their progress to fight antibiotic resistance.”

Dr. Carmem Pessoa, Team Lead AMR at WHO in 2015

“The ReAct Toolbox is an excellent model, providing basic information on several aspects of AMR/Antimicrobial stewardship and links to other online resources that are relevant to both LMICs and high-income countries.”

Van Katwyk et al, Educational opportunities for healthcare workers on antimicrobial resistance and stewardship around the world.
Impact

With the Toolbox, ReAct has expanded its reach of support. It provides ReAct the possibility to virtually assist countries and stakeholders, and maintaining and updating the Toolbox also keeps staff up-to-date with the latest science and resources. In 2018, more than 70,000 unique users from over 150 countries accessed the Toolbox, and it had more than 8000 returning users. Also encouraging are the statistics of users from low-income countries across the world. Among the top 20 countries in terms of visitors, five were in Africa (Nigeria, Kenya, South Africa, Egypt, Ghana) and six in Asia (India, Philippines, Pakistan, Malaysia, Thailand, Bangladesh). In a small online user evaluation survey, the majority of respondents noted that they work in LMICs and that overall, they were satisfied with the content of the Toolbox.

The Toolbox has been lifted as an instrumental tool in countries’ work to develop national action plans. For example, Uganda’s Antimicrobial Resistance National Action Plan 2018-2023 lists the Toolbox as one of eight references, and ReAct’s support is acknowledged in Zimbabwe’s NAP.

Prof. Oladipo Aboderin, Team Lead of the technical working group for Nigeria’s NAP on AMR, who attended a Toolbox workshop at the ReAct Africa conference in 2016, noted: “The fact that I know the Toolbox is there, gives me a kind of confidence that we will be able to develop our action plan. I just knew we have what it takes. When questions come up that I don’t readily have an answer for, I now know where to look. And all the documents you need are right there in the Toolbox for you to access.”

Through the Toolbox, ReAct has thus played an important role in increasing access to reliable information on ABR in LMICs, as aspired in the LFA outcomes. Overall, this also provides strong support for the LFA outcomes of ReAct being seen as a trusted source of information and being able to act as an advisor.

Looking forward and lessons learned

The work on the Toolbox has this far mainly been a process led by ReAct Europe. Although the other nodes have been consulted throughout the process, they have not actively been involved in development. Looking to the future, a more cross-nodal collaborative effort will be important for its continued relevance and applicability in LMICs. Perhaps the most important lesson learned is that the Toolbox is a massive undertaking. With limited staff and resources, it remains a challenge to keep it up to date and make the existence and content of the Toolbox sufficiently known. Originally, the plan was to more actively engage people to share their lessons learned, but again this proved difficult with limited staff and time. Also, as other actors stepped in and filled this space, (such as WHO’s community of practice), the need for this role decreased. With the expanding field and increasing amount of relevant information from LMICs, as well as increased competition from other actors, additional funding and staff time will be necessary to make sure that the ReAct Toolbox remains the world’s most comprehensive resource on ABR. As a step in this process, ReAct has started to engage with other actors to streamline work, avoid duplication, and explore opportunities for collaboration to expand its reach. As an example, discussions have been held with WHO on several occasions on how to best complement each other’s resources.
#6 Increase funding to ReAct and the ABR issue

**Outcomes**

- ReAct has a sustainable and more diversified funding base
- Increased funding for the ABR issue.
eAct has for many years identified the risk of relying too much on a single core funder, and has actively worked to recruit more funders. However, we have found that support for advocacy is not widely available. Despite eAct’s accomplishments to raise policymaker awareness of the issue of ABR, funders set their own thematic areas of focus, which makes securing core funding especially difficult. Nevertheless, throughout the period of the grant eAct continued to pursue both potential core funding (through e.g. a funder mapping, creation of a fundraising strategy and through other leads such as personal connections) and project-based funding. As can be seen from the information below, even though no new core funder has come onboard, the latter strategy of getting project/activity-based funding has been successful.

Co-funding efforts and successes

During the years 2015-2018, eAct has successfully raised, in direct grants and through cost-savings of salaries and activities, approximately 11.9 million SEK, in addition to the core grant from Sida. Funders include a wide range of organizations such as Uppsala University, Marie-Claire-Crønsdøts Foundation, Axfoundation, WHO, PAHO, South Center, Third World Network, Open Society Foundation, Johns Hopkins Bloomberg School of Public Health, the Sall Family Foundation, the Ministries of Health in El Salvador, Kenya, Zimbabwe, Zambia, EPN, The Municipality of Cuenca, Bread for the World, GARP, Misereor and IPNET. Also, work done in 2018 resulted in a large private donation to eAct Europe through Uppsala University with has not been included in the figure above.

In addition to the above, eAct’s regional nodes in North America, Africa and Asia Pacific have received project funding from the WHO for two scoping studies on “Analyzing options for global stewardship for antimicrobial medicines and resistance to guide priority setting of the framework” as well as one on “Current Marketing and Promotional activities for Antibiotics, adopted by Pharmaceutical Companies in Low and Middle-Income Countries”.

Another strategy that eAct has used is to solicit support in the form of human resources from collaborating partners. This includes partners such as several universities in Ecuador, Bolivia and Argentina, People’s Health Movement, Singapore General Hospital, National University of Singapore Hospital and Tan Tock Sing Hospital. These partners have contributed staff time from professors, academic coordinators, physicians, healthcare workers, teachers etc to work in eAct projects. Also, volunteers often help out with tasks such as proofreading and editing of books, manuals, helping out at meetings and activities during World Antibiotic Awareness Week etc.

Furthermore, several individuals and partners across all nodes have contributed to eAct activities where the value in money is very difficult to estimate (and often not even known to us as some external partners do not share their cost contributions to projects). An example is support from the Dag Hammarskjöld Foundation and South Center on several occasions with staff time, meeting support, travel and accommodation costs for meeting participants, and printing/editing costs.

Engagement with funders to increase funding to ABR

eAct’s Anna Zorzet has been a member of JPIAMR stakeholder advisory board, and as such given input on their Strategic Research Agenda. eAct was also asked to give input on a call to identify areas for specific research networks. This has enabled eAct to highlight areas of concern for LMICs, even though JPIAMR started out as a purely European network (it has since expanded and included member countries from other continents).

Several of eAct’s nodes have also engaged with the Fleming Fund; both to give feedback on suggested funding calls, which enabled us to help focus these on areas of priority for eAct and also given feedback on the fund management itself. Initially, there was very little transparency of funding given, now this has improved as calls are posted online. However, there is still work to do in increasing transparency and to make the lead times from announcing to closing the call longer, to enable e.g. CSO actors to apply, as they may not have the short response times that management consultant firms and larger organizations have.

In June 2018, WHO Headquarters initiated a development partner meeting called “Going further and faster on antimicrobial resistance”. The meeting discussed the place of AMR in wider development agendas and the challenge facing development partners to address AMR effectively. The idea behind the meeting was that many development partners are struggling with developing an internal approach to tackling AMR and making it coherent with other existing initiatives. eAct played a catalytic role in the meeting to highlight how AMR is connected to global development issues, the SDGs and what the financing needs look like. This was reflecting in the meeting report that states that: “…The meeting concluded that a risk approach was seen as useful: AMR poses a risk to the Sustainable Development Goals (SDGs) and other development objectives.
During the years 2015-2018, ReAct has evolved a lot as a network. This has occurred through improvements in internal processes concerning staffing, communication, financial management, monitoring & evaluation and planning. This has occurred at the same times as interest and action on ABR have reached unprecedented levels, which also means ReAct has had to adapt to ever-increasing requests for its expertise. Below, these organizational improvements, along with challenges met and lessons learned are outlined.

Governance

The ReAct network is governed by a Global Leadership Group (GLG) acting as a ‘de facto’ board and responsible for decisions concerning the strategic development of ReAct. It has 6 members: the heads of each ReAct node and ex officio, the founder of ReAct Otto Cars. The GLG meets in person at least once per year and in between has a number of telephone conferences throughout the year. This format has allowed ReAct to work efficiently and resolve challenges and opportunities arising.

In 2016, a ReAct Charter was developed summarizing information on membership, decision-making power of the GLG, accountability and funding etc. In addition, terms of references (ToRs) were developed for GLG members and node heads. The charter and the ToRs were adopted at the annual meeting in Baltimore, in October 2016.

Monitoring and Evaluation (M&E) and Learning

For a virtual follow-up meeting in September, ReAct played an even more active role, being invited by WHO to help shape the agenda and led a discussion point on AMR and the development narrative.

As an active follow-up to the ongoing discussions, ReAct and Dag Hammarskjöld Foundation co-hosted a meeting on AMR financing in December 2018, inviting 20 experts from a variety of organizations including national governments, multilateral and bilateral institutions, CSOs and academia. The meeting examined options for resource mobilization and proposed new and existing funding streams to invest in addressing AMR. The meeting participants also endorsed the critical role ReAct plays in driving the next steps. The outcomes of the meeting were compiled into the report “Antimicrobial resistance and sustainable development: A planetary threat but a financing orphan”. The report fed into the IACG process, received very positive response from governments, WHO and other organizations, and was widely adopted in newsletters including the WHO Community of Practice listserv and on social media. One of the AMR champions from Uganda responded with the message “…This was a timely engagement and report. I know health policy planners have been looking to start a conversation with Ministry of Finance and this opens the door.”

This meeting was an early step towards developing concrete proposals about how to fund AMR activities. Based on the discussions of and the positive feedback from the meeting, a second meeting has been anticipated in 2019, with the aim to move into more concrete discussions with potential funders.

Organizational development

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