ReAct Strategic Plan

2015 - 2019
OUR VISION
A world free from fear of untreatable infections.

OUR MISSION
Concerted action to develop equitable and ecologically grounded solutions to contain ABR, that contribute to universal health coverage, poverty reduction and global development.

OUR GOALS
- Convene, translate evidence and catalyze action on antibiotic resistance to reduce suffering and save lives;
- Identify, innovate and promote solutions and best practices;
- Partner, mobilize, and empower key communities and champions for change.

ReAct
Antibiotic Resistance

The Silent Tsunami

In the last seven decades, the use of antibiotics has helped drastically reduce deaths due to a variety of bacterial infections establishing these as the cornerstone of all modern medicine. From treatment of blood infections and pneumonia to major invasive procedures like heart surgeries and organ transplants, antibiotics have become indispensable.

The growing phenomenon of bacterial antibiotic resistance (ABR) is now threatening to leave us without effective treatment of bacterial infections and rolling back important achievements of modern medicine.

The spread of ABR, coupled with the lack of novel antibiotics, is threatening health systems globally. It has been fuelled by massive use and misuse of antibiotics together with poor sanitation and lack of hygiene and infection control. Polluted environments from aquaculture, agriculture, wastewater from municipalities, pharmaceutical manufacturing and hospitals also contribute to ABR development and dissemination. ABR is currently considered one of the world’s greatest public health threats and also an economic and environmental risk.

In the European Union alone approximately 25,000 patients died of resistant infections in 2007, while the societal costs of such infections are estimated at about EUR 1.5 billion each year.

In the United States, each year, at least 2 million people become infected with bacteria that are resistant to antibiotics and at least 23,000 people die as a direct result of these infections. Estimates of the economic impact of antibiotic resistance in the country vary from as high as US$20 billion in excess direct healthcare costs, to US$35 billion a year as additional costs to society for lost productivity.

In Thailand, resistant hospital infections cause more than 38,000 deaths and productivity loses of over US$1.2 billion each year. In low and middle-income countries (LMICs), where the burden of infectious diseases is higher and data is scarce, the evidence suggests that 70% of neonatal infections are resistant to first line antibiotics resulting in increased mortality and multiplied costs. Worldwide, antibiotics are also becoming ineffective in treating gonorrhoea with 106 million new cases/year globally.

ABR strikes hardest on the poor. In Sub-Saharan Africa, infectious diseases remain a dominant cause of lives lost. The most lethal infectious childhood diseases frequently no longer responding to standard treatment and effective drugs are often not affordable for low income communities. The consequences are devastating: every year, bacterial infections kill more than 2 million children and 1.3 million adults die of tuberculosis. Already, we cannot safely treat multi-resistant strains of typhoid fever, a major killer of children in LMICs.

The world can no longer afford to misuse antibiotics nor can we ignore the ever-increasing prevalence and incidence of resistant and multi-resistant bacterial strains worldwide. ABR has become a threat to the health of the entire globe and it is time to act before it becomes too late.
The idea of ReAct, an organization dedicated to mobilizing global action on antibiotic resistance, was born in 2004 following a meeting of concerned health professionals, scientists and health activists at the Dag Hammarskjöld Foundation in Uppsala, Sweden.

ReAct articulated its vision after a second, bigger global meeting in 2005 and launched as a catalyst group in 2006. Though formally based at Uppsala University, Sweden, already from the onset ReAct was an international organization with representation from Europe, Asia, Latin America, Australia and North America, and in 2014, a ReAct node in Africa was established. Although a small organization, ReAct has covered the global scene, and at the same time involved deeply in a number of specific regional, national and local processes.

ReAct was one of the first international networks to articulate the complex nature of ABR and its drivers. ReAct became known for its holistic view of the problem, reframing it from a purely medical and scientific issue. The early work of ReAct focused on documenting the issue more deeply and finding new solutions to manage the problem of ABR, and to understanding how different local contexts need different approaches.

Across the globe, ReAct now catalyzes action on antibiotic resistance by translating scientific evidence to policy makers and the public. It works across disciplines, using its convening power to bring stakeholders together in developing ways forward, promoting best practices and innovative solutions and advocating and mobilizing for behavioral change.

As a credible source for strategic policy guidance, ReAct has successfully brought evidence about the problem of antibiotic resistance outside the expert conference rooms and managed to put the issue on the global agenda. ReAct introduced the principle that the existing business model needs to be changed to ensure that new antibiotics are rationally used and with equitable access and affordability for all.

As it completed eight years in existence, ReAct underwent a major restructuring and review process. At a weeklong strategic meeting in 2013, ReAct reworked its organisational structure and developed three interrelated programs:

- Empowerment, Engagement and network Extension (EEE)
- Strategic Policy (SP)
- Generation and Translation of Evidence (GATE)

Challenges of tackling ABR

There are several obstacles to finding solutions to the problem of ABR.

First, is the challenge of complexity of the problem. ABR is part of a larger ecological phenomenon and not amenable to easy technical interventions. All use of antibiotics contributes to resistance, so the exact role of antibiotic use in human health or animals and food production in driving the spread of resistance in the ecosystem must be properly understood and addressed. Also, a vast majority of bacteria are essential for life and the health of humans, animals and the ecosystem and only a very small percentage of them cause disease. This implies that treatment of infectious diseases should be optimized in a way that they do not make the cure worse than the disease.

Secondly, antibiotic resistance is a problem on a global scale, with resistance originating in one part of the world spreading rapidly, in some cases in a matter of weeks.
Intensified human mobility and food trade accelerate the spread of ABR across national borders, across different bacterial species and from bacteria in animals to those in humans. Responding to outbreaks of resistant infections involves coordination of efforts across national boundaries, varied health systems and involving international agencies like the WHO.

Along with scale there is also the great diversity of social, economic, political and cultural contexts in which ABR emerges or spreads. For instance, while legal regulation of antibiotic sales or usage has worked well enough in certain parts of the world, in other parts such restrictions are difficult to implement in practice. Abuse or overuse of antibiotics in just a few regions of the world is enough to overturn achievements in containing ABR elsewhere.

Next is the issue of financial and scientific roadblocks to the development of new classes of effective antibiotics. Developing new drugs is highly resource intensive and private industry does not seem to have the incentives to get involved beyond a point. Partnerships between the private and public sector for such drug development are too few and far between. Even if a new drug is developed, currently there are no strategies to minimize unnecessary use to keep it effective for as long as possible.

The absence of efficient and low cost diagnostics is also an obstacle to the ability of physicians to prescribe appropriate antibiotics or even take a decision not to prescribe at all.

While excessive use of antibiotics remains a major problem it is also the fact that in the poorer parts of the world there is a lack of access to essential and effective life-saving antibiotics. Weak health systems and unstable central drug distribution systems contribute to shortage of essential medicines. Increasing resistance levels also result in older, cheaper antibiotics losing their efficacy, while newer and significantly more expensive drugs are unavailable due to high costs.
In the first stages of its development (2006-2014) ReAct worked in an exploratory way, which generated innovative approaches to changing behaviour and managing ABR. During this time, and in part because of ReAct´s work, the global ABR landscape it was working in has changed. The awareness of the emerging health and economic crisis created by ABR has increased significantly.

The next 5 years of ReAct’s work will be based on analysis of the experience, knowledge and expertise from its own network as well as other networks and institutions with which ReAct works in close collaboration. This analysis will form the basis for a strategic policy agenda and advocacy that responds to the changing landscape and creates new proposals for areas that have been neglected.

Engagement, Empowerment and Network Extension (EEE)

There is a new paradigm emerging on the role of microbes in human health through work in microbiology, immunology, microbial ecology and biophysics that points to the need for an ecological approach to ABR and rejection of the war metaphor in medicine or the treatment of the human body as a stand-alone machine.

Among these are new findings and understanding of the human and hospital microbiomes with implications for current protocols on antibiotic use, role of nutrition and maintenance of hygiene. All these together with new ideas on greening of hospitals and decentralised healthcare delivery – conceptualized as ReAct’s Reimagining Resistance - have potential for effectively dealing with ABR.

Similarly in the social sciences, there is new research, that has implications for ABR, explaining the anthropological basis of health-seeking behavior; the role of art in stimulating innovation and also bringing about critical awareness of complex themes; new communication techniques for dissemination of relevant information; and understanding the role of socio-economic determinants of health.

ReAct’s EEE programme is about raising awareness, education, changing behaviour, empowerment and mobilising stakeholder-communities for action to address the urgent and global problem of ABR.

These in turn are necessary steps towards social change that are pre-requisites for tackling every important health issue and no less necessary in order to halt and reverse the spread the global threat of ABR. A case can also be made for ensuring appropriate use of antibiotics as a pilot for successfully coming to grips with rational use of medicines over all.

Over the next five-year period, the EEE programme’s goals are the following:

- To identify and disseminate best practices and new solutions in the context of ABR and collaboration to various communities at grassroots, school, hospital, academic and policy levels.
- To encourage a holistic approach to ABR as a problem of human and ecosystem health, influenced by economic, social and cultural factors, and the deconstruction of the metaphor of war while recognizing the positive role of microbes in human life and nature.
- To address and manage the ABR problem by developing, strengthening and extending local and regional action networks. To contribute to the creation of national plans to tackle ABR, by empowering stakeholder communities, from consumers, practitioners to policy agents.
Strategic Policy (SP)

Complementary to its grassroots work, ReAct aims to promote and support initiatives that address the wider systemic and deeper structural issues involved with the problem of ABR. Antibiotic resistance has taken center stage in global health, from being debated at the World Economic Forum to being highlighted in India's Chennai declaration. However, not all stakeholders have the public's interest at heart.

For example, some pharmaceutical companies have used the shortfall in novel antibiotics to extend monopoly protections on drugs and to call for premium pricing for an antibiotic course. ReAct has for many years worked actively on new business models and approaches to innovation, both upstream in the pharmaceutical R&D pipeline and downstream in the healthcare delivery system. For example, ReAct introduced key policy ideas like delinkage into the policy dialogue to address antibiotic resistance and to also take into account specific circumstances in LMICs, to ensure equitable access of effective antibiotics to all.

Over the next five-year period, the SP programme's goals are the following:

- To advance ReAct's work on innovation by offering strategic consultation, developing white papers, and contributing to policy convenings.
- To build on ReAct's network of stakeholders by developing tools, piloting projects or supporting an enabling environment for bringing forward and testing such innovations.

"ReAct's vision is a world free from fear of untreatable infections"

To support ReAct's continued efforts to create a broad civil society coalition by extending effective approaches to reach new constituencies—some outside of the traditional healthcare delivery system—to tackle antibiotic resistance.

Generation and Translation of Evidence (GATE)

From rates of antibiotic use and resistance levels to understanding the knowledge, attitudes and behaviours of healthcare providers on ABR, there is a lack of data to inform policy makers of the gravity of the ABR situation. Currently no organisation or entity is either systematically collecting or trying to address these deficits in a structured manner. With deeply rooted connections across the globe, and its reach to civil society organizations focused on sustainable health and development ReAct is uniquely positioned to identify gaps in data, forge partnerships for collaboration, and place ABR on the global health agenda.

Interventions to halt the spread of resistance can come from a variety of angles: infection prevention and control; rational use of antibiotics, including how antibiotics are being used in community case management; how to engage champions; how antibiotics play a vital role in vulnerable groups such as new-borns, malnourished children, and patients with weakened immune systems, such as those with HIV. It can be overwhelming to know where to find information and to keep on top of it all. There is a need to follow not just articles about ABR specifically but a multitude of diverse actions that individually play an intricate role in the global ABR situation. In order to synthesise clear messages and avoid false solutions, in-depth knowledge across the whole field is required. This includes everything from detailed knowledge on how bacteria spread and share genes in order to pinpoint points of intervention, to the underlying motivation of people to purchase and use
antibiotics when they are not needed. It is easy to confuse messages, so there is a need to clarify and inform on a number of issues.

Over the years ReAct has emerged as a trusted global source of high quality, scientifically credible information on ABR. This has contributed to the seriousness with which ReAct's policy messages are taken by a diverse set of stakeholders worldwide.

Over the next five-year period, the GATE programme's goals are the following:

- To continuously monitor the field of antibiotic resistance and extract knowledge generated from research and policy papers, harvest insight and experiences from the implementation of interventions, and gather information on the evolving landscape of ABR. To analyse and translate relevant content into a usable form for others working in the field.
- To disseminate translated evidence on antibiotic resistance through an open source knowledge hub and interact with stakeholders on topics from information about the global burden of antibiotic resistance to innovative solutions and best practices on how to take action.
- To identify gaps in information necessary to influence policy change, foster partnerships for collaboration, and convene meetings to catalyse stakeholder interaction on ABR issues.
ReAct's latest global node, in Africa, was born in a workshop held in Nairobi, Kenya from 9-11 April 2014 at a gathering of 27 delegates from ten countries around the continent. The new ReAct Africa node builds on a long engagement ReAct has had with various individuals, groups and institutions working on antibiotic resistance (ABR) in Africa.

Africa, has been a priority for ReAct’s work as it bears a very heavy burden due to infectious diseases resulting in the deaths of over 3.5 million African children under five every year. Over half of all maternal deaths occur in Africa, around 9% of which are caused by sepsis due to infection during childbirth or immediately after.

Africa also has a worrisome situation with pollution of food and water with antibiotics, leading to increasing bacterial resistance, due to either non-therapeutic use of antibiotics in animal husbandry or release of wastewater from pharmaceutical and healthcare facilities into the environment.

Since 2006, ReAct has built strong relationships and succeeded in introducing ABR to the agendas of two active networks: the Ecumenical Pharmaceutical Network (EPN) and INDEPTH. ReAct's overall networking strategy has been to identify and engage on ABR with 'living' networks, organisations and individuals in Africa that understand the process of change in relation to key issues facing the continent.

Dr Mirfin Mpundu of the Ecumenical Pharmaceutical Network (EPN), which will be hosting the ReAct Africa node, was appointed as the contact person together with Dr Martha Gyansa-Lutterodt, MOH Ghana as deputy. A committee of three people has been set up to assist them, representing CSO sector, academia, environment and health professional sectors.

The new ReAct Africa node has decided to develop strategies to tackle three priority issues, which include:

- Development and documentation of a holistic approach to ABR containment in Africa.
- Raising awareness on the need for good quality data.
- Increasing awareness on ABR by adapting and promoting the use of available information, education and communication materials.
ReAct is a network with 5 nodes:

- Strategic Policy (SP) node
- Generation and Translation of Evidence (GATE) node
- ReAct South-East Asia (SEA) node (moving to include an Asia Pacific focus in the short to medium term)
- ReAct Latin America (LA) node
- ReAct Africa node

Each node coordinates both highly active networks of champions and organisations and more loosely connected networks of experts and organisations, that participate actively as interested or required.

In addition, ReAct has past and present collaborations with stakeholders in China, India, and Australia.
ACHIEVEMENTS

Transforming Agendas

- ReAct reframed the global debate on incentives for R&D for new antibiotics as a global public good by focusing on push mechanisms rather than extended patents, encouraging collaborative R&D models, and introducing open source drug discovery into the options for new business models. ReAct helped make the hidden nature of the growing antibiotic resistance epidemic more visible through articles in the scientific and popular press, new language and images in creative communication products, events and discussions.

- ReAct seeded ideas and helped develop WHO's monograph, "The evolving threat of antimicrobial resistance: Options for action", where two out of five expert working groups were chaired by ReAct leaders.

- ReAct catalyzed debate with diverse groups of global and local level stakeholders on how systems of procurement, distribution, access and use need to change to preserve the effectiveness of new and existing antibiotics.

Inspiring policy action

- Moved the ABR issue from the European to the global level, successfully engaging 200 multisectoral stakeholders from around the world in a global meeting on ABR and the need for innovation in 2010. The proceedings from the conference were published as a special edition of the journal Drug Resistance Updates with more than 10,000 requests for full text articles in just over 12 months.

- Taking the development of new drug innovation business models one step further towards being operational, ReAct contributed the background document for one topic of the Innovative Medicines call entitled "Driving Re-investment in R&D and Responsible Use of Antibiotics".

- Supported the Ghana Ministry of Health in its multi-stakeholder AMR policy development process, following its participation in ReAct's 2010 global meeting.

- Influenced policy makers through papers published, including two in the British Medical Journal, one on meeting the challenge of ABR and the other on the 3Rs (sharing resources, risks and rewards) model for improving innovation of antibiotics. ReAct is presently involved in guest editing and writing for a special issue on ABR for Lancet Infectious Diseases and a policy article on new norms for systems of distribution, access to and use of antibiotics.

"ABR is currently considered one of the world’s greatest public health threats and also an economic and environmental risk”

Changing the paradigm

- Reframed ABR as an ecological issue that needs a holistic solution. For example, ReAct brought out the Microbes and Metaphors report on ABR and initiated the Reimagining Resistance process as an interdisciplinary issue involving medical professionals, microbiologists, environmental activists and artists.

- Developed a closer understanding of implications of new research work in microbiology and microbial ecology for ABR through interaction with top scientists in the US, Europe and Australia.
Building networks

- Supported an organic process of dialogue and movement building in Latin America, Asia and Africa. ReAct's efforts have resulted in the emergence of a network of grassroots groups working on ABR in different parts of the world.

- Fostered collaborations across countries and regions through sharing of experiences. ReAct's CSO project, in 6 countries and over 3 continents, empowers CSOs to work on ABR in their networks.

- Mobilised civil society to take ABR on their agenda. In particular ReAct played a key role in the formation of the Antibiotic Resistance Coalition in mid-2014, consisting of over two dozen civil society groups from around the globe committed to helping contain the problem of ABR.

- Succeeded in introducing ABR to the agendas of two active networks in Africa, the Ecumenical Pharmaceutical Network and the INDEPTH network. Their involvement has led to the creation of ReAct Africa, the latest node in ReAct's growing global network.
PUTTING ANTIBIOTIC RESISTANCE HIGH ON THE EU AGENDA

In September 2009, the report “Bacterial challenge: time to react”, on the burden of antibiotic resistant infections, was launched by ECDC an EMA. It estimated that in 2007 approximately 25000 patients died of resistant infections in the EU, Iceland and Norway. Secondly, it revealed that the societal costs of such infections were estimated at about EUR 1.5 billion each year. It also contained an account of facts and figures that allowed reasonable predictions of the gap between bacterial resistance in the EU and the likely availability of new treatments that would be effective against multidrug-resistant bacteria in the near future.

The Director of ReAct had visited the CEO of both ECDC and EMA to discuss the need for scientific evidence for the drying pipeline and data on the health and economic burden of resistant infections, which resulted in the collaborative report where ReAct provided critical data and proposed much of the original methodology.

The ECDC-EMA-ReAct report provided a solid basis for the global debate by successfully developing a robust method to document and characterize the gap in the R&D pipeline and the burden of resistant infections in Europe. It also became an important background document to the expert conference on "Innovative Incentives for Effective Antibacterials” held in September 2009, as part of the Swedish EU Presidency where it brought knowledge of ABR to important new audiences, including CSOs and policymakers – especially in the EU.

The council conclusions following the Swedish presidency instructed the Commission to produce an action plan on ABR in 24 months. ReAct also helped move the issue from the European to the global level, successfully engaging 200 multisectoral stakeholders from around the world in a global meeting in Uppsala, Sweden on ABR and the need for innovation in 2010.

ReAct also advocated for inclusion of antibiotics as a focus into the Innovative Medicines Initiative (IMI), which was set up to kick-start collaboration between companies and between industry and academia/public sector for “unprecedented sharing of information”. The result has been IMI’s New Drugs 4 Bad Bugs programme, that represents a unique partnership between industry, academia and biotech organisations to combat antibiotic resistance in Europe by tackling the scientific, regulatory, and business challenges hampering the development of new antibiotics.
2004 The idea of ReAct is born at a meeting organized by the Dag Hammarskjöld Foundation

2005 Global meeting on ABR of health professionals, social activists, scientists, media professionals in Uppsala

2006 First program with Sida funding begins

2007 ReAct Latin America initiated

2008 Reimaging Resistance launched, Cuenca Declaration on ABR, Ecuador

2009 ReAct South East Asia initiated

2010 Global Innovation Conference, Uppsala

2011 Intense work is started to ensure that rational use, but also equitable access and affordability of antibiotics is considered in global dialogues

2012 Civil Society Organisation project launched

2013 ReAct undertakes restructuring, ReAct African Network underway

2014 ReAct Africa initiated, Antibiotic Resistance coalition created

Selected ReAct Achievments
From the start and throughout its existence, ReAct's main funder has been SIDA (the Swedish International Development Cooperation Agency).

Over the years, substantial contributions have also been received from a number of other sources. For example the Swedish Ministry of Health and Social Affairs and Uppsala University.

The Kjell and Märta Beijer Foundation, Marie-Claire Cronstedt Foundation, PAHO, WPRO, university departments and CSO’s in the regions have contributed funds for specific projects.

ReAct recognizes the need for a comprehensive fundraising strategy and is in the process of developing a full strategy. The final plan is expected to be ready by end of 2014. ReAct does not accept any funding from the pharmaceutical industry.

“ABR strikes hardest on the poor. Bacterial infections kill more than 2 million children every year”
MAKING CHANGE THROUGH CHILDREN

In Latin America, ReAct has taken an ecological perspective of antibiotic resistance (ABR), which calls for a holistic approach to health. This approach has helped ReAct network with other civil society groups in the region that share similar values and to create processes that enable people to participate and through this to understand how their contribution is part of the solution.

“From being fearful of microbes due to ignorance now the children have a much more informed and nuanced understanding as also an appreciation of bacterial contribution to life on the planet” says Gustavo Cedillo Zea, Vice-rector of the Unidad Educativa Juan Montalvo, one of the schools where the ReAct project was implemented.

School children in Cuenca, Ecuador held a very special press conference in June 2014 to tell the media about the book of stories on microbes they have written. The glossy printed 44-page book was the culmination of a process where children from five schools in the city of have learnt about microbes from the staff of ReAct Latin America (RLA).

The children, through their enthusiasm, have in turn 'infected' their own families and neighbourhoods with knowledge of ABR and microbial life. The targeting of children as a vehicle in raising awareness on ABR is not surprising given that, along with the Medical Faculty of the University of Cuenca, RLA's closest collaborator in the region has been the Child to Child Centre (CCC) in Ecuador. The CCC uses what is called the 'Child to Child' approach to help children become health promoters for other children, their families and their communities and to be active researchers and advocators.

“An important characteristic of the work of RLA, has been its ability to frame the issue of antibiotic resistance in terms of its larger social, economic and ecological dimensions” says Dr Arturo Quizhpe, Coordinator, RLA and till recently Dean of the Faculty of Medical Sciences at the University of Cuenca.

Through this innovative approach, hard set fears and behaviours can be changed, and ReAct's aims to spread awareness of it globally, through its international networks.
NETWORKING CHAMPIONS FOR CHANGE

The example of ReAct South East Asia

Starting in 2006 with just a few contacts in a couple of countries the ReAct network in South East Asia (SEA) today has spread widely involving a wide variety of individuals and institutions tackling the problem of antibiotic resistance (ABR). With partners and associates in Singapore, Malaysia, Vietnam, Timor Leste, Thailand and the Philippines, ReAct SEA has developed a significant network linking champions trying, in very different contexts, to transform everything from national level policies to community outreach programs on ABR across the region.

“The process was simple – one person referring to another and all wanting to be part of a larger, cross border network that would help strengthen their work in their home countries towards addressing the ABR problem” says Mary Murray, ReAct's Global Network Coordinator. Mary together with Michael Chai, ReAct SEA coordinator, leveraged their knowledge of the region and friendships with key health activists to set in motion the activities that led to ReAct SEA's fast growth.

For example, in one such ReAct-organised meeting, held in Bangkok in 2010, participants shared country situation analyses and case studies of positive initiatives. Among them were the Antibiotic Smart Use project in Thailand that seeks to target three common diseases which do not treatment with antibiotics and the story of developing an Antibiotic Stewardship Program in Singapore collaboratively between 3 hospitals and now a 6 hospital initiative.

ReAct facilitated study tours as a follow up, to both Thailand and Singapore, by interested practitioners in the region. This in turn led to the adaptation and adoption of the Thai ASU project in Indonesia (called SUA there) by Yayasan Orangtua Peduli (YOP), a group working on rational use of medicines and to the initiation of an Antibiotic Stewardship project at the University Malaya Medical Center in Penang. In 2012, YOP along with other groups from Thailand and Malaysia agreed to participate in ReAct's global CSO project to build the capacity of CSOs working with women and children, and the environment, to address the issue of ABR.

Apart from the active networking another reason for ReAct's success in the region has been its ability to offer a global and more holistic perspective to the issue of ABR, helping break the somewhat insular thinking prevailing till its intervention. ReAct has offered this bigger picture and the levels of the issue: innovation, the need for an ecological approach, emphasis on prevention and public awareness and the paradigm shift taking place in knowledge of microbial behaviour.

Interest in working with ReAct has now extended to other parts of Asia also. For example, at the National Medicine Policy conference in Sydney, in 2012, participants at a workshop on Antimicrobial Resistance from Australia, India, China, Korea, Sri Lanka, Mongolia and some of the small island nations of the Pacific, showed keen interested in becoming part of the ReAct network in this region.

The possibilities are there to expand the network from a SEA one to an Asia Pacific ReAct network in the next 3-5 years.
ABR is the ability of bacteria to survive the antibiotics designed to kill them, through a variety of mechanisms, including bacterial adaptation to antibiotic exposure.


Medical causes of admissions to hospital among adults in Africa: a systematic review. Global Health Action (2013): http://dx.doi.org/10.3402/gha.v6i0.19090


The emergence of antibiotic resistance in typhoid fever. Cooke FJ et al. Travel Med Infect Dis. (2004);2(2):67–74
ReAct Statement of Principles

- **We view effective antibiotics as an essential public good.** How well we protect antibiotics from misuse today and in future has a major impact on our common wellbeing. Presently antibiotics are an exhaustible resource.

- **We support access for all in need and excess for none** to ensure this public resource benefits everyone who needs it.

- **We are committed to the prevention of infection** in all our advocacy and actions, in particular the provision of primary health care and influencing the social and economic determinants of infection.

- **We promote context specific solutions** to account for the diversity of systems of health care, cultural practices, resource availability, geography, community and family circumstances and other relevant factors. While some solutions can be adopted globally, many require local development or adaptation with champions for change providing necessary leadership.

- **We take an ecosystem approach** that replaces the dominant war metaphor of bacteria as our 'enemy', with a new understanding of the essential role of microbes and microbial ecology in the health of humans and all forms of life.

- **We are independent of the private pharmaceutical industry** and do not accept any financial support from it.