THE WORLD ALLIANCE AGAINST ANTIBIOTIC RESISTANCE (WAAAR): A MAJOR PLAYER IN THE GLOBAL DRIVE TO PROTECT HUMAN HEALTH

“Our Alliance has several important strengths: a multidisciplinary and multiprofessional structure including veterinary medicine, strong involvement from consumers, participation from politicians, parliamentarians and deputies, global programmes including antibiotic stewardship, infection control, use of old and recent diagnostic tools, research, and upgrading of vaccination programmes, all with the official support from many professional societies, from many different countries and other related bodies.”

www.waar.org

About WAAAR
The Non-Governmental Organization ACdeBMR (L’Alliance contre le Développement des Bactéries Multirésistantes aux Antibiotiques) was constituted on 2 December 2011 in France. Subsequently, as its work became more internationally focused, it adopted the English name it is now known by: “The World Alliance Against Antibiotic Resistance” (WAAAR).

WAAAR is registered in Paris, France. From the start it has had strong bonds with French speaking Africa, with many distinguished African supporters, such as Benin’s Minister of Health, Dorothée Kinde Gazard, MD, PhD, who had been very active in the promotion of high quality safe health-care in Africa, and who organized an inter-ministerial conference on that subject (1).

Board members
The Board Members are Dr Céline Pulcini, Vice-President, Jean-Pierre Hermet, Dr Joel Leroy, Garance Upham, and Dr Jean Carlet, President.

Membership
The 730 members of WAAAR are physicians, hospital managers, scientific researchers, hygiene nurses, patients and patients organizations, economists and interested persons, from over 55 countries.

Drawing on the skills and experience of its members WAAAR’s expertise ranges widely from antibiotic stewardship for family physicians and hospital managers, for protecting and prevention control, to water and sanitation to protect populations from the spread of drug resistant bacteria, veterinarians, food quality experts, researchers and representatives of patient and consumer groups.

The Paris Declaration
In June 2014, the WAAAR initiated the Paris Declaration (see below) which enlisted the support of over 90 scientific societies, up to 145 societies or institutes including ACCP, ATS, CDC-USA, ESCMID, ESICM, IDSA, SCCM, ISID, ISC and SPILF.

WAAAR is among the largest network along with REACT or APUA, of people actively working to make the world safe for human beings in the “post-antibiotic era”, to quote the Director-General of the World Health Organization, Dr Margaret Chan.

Actions: National and International
France
Intensive lobbying and meetings with high level officials, resulting in a national Décret sur les Référents, and the
creation of a National Task Force on Antibiotic Resistance.

In January 2015, Dr Jean Carlet was named Project manager for the French government National Task Force for the Preservation of Antibiotics created by Health Minister Marisol Touraine.

Infection control
WAAAR is very active in the domain of infection control and participates in global efforts in this domain.

Professor Didier Pittet, known for his worldwide work on hand hygiene with the patient section at WHO initiated the bi-yearly World Conference on Infection Control in Geneva, IPCIC to which we participate.

Dr Pittet was a key scientific collaborator to the Benin conference and has been keen to support IPC /patient safety efforts including those for the French speakers from Africa who have benefited from a special programme in IPCIC (2).

Patient safety
Patient Safety undertakings were also key to WAAAR’s work with the association Le Lien (founding Member) (3). The NGO Le Lien organizes regular events to highlight errors in health care and the way to counter them.

As well, WAAAR co-founding member, Garance Upham, was on the Steering Committee of Patients for Patient Safety of the World Alliance for Patient Safety for ten years, later renamed WHO Patient Safety Programme (2004–2014).

Communications
Media/Research seminar with the Sorbonne University of Paris to examine various aspects of public communication on AMR for the population, by WAAAR Member Professor Antoine Andremont, Hôpital Bichat, Paris and member AGISAR/WHO.

Interventions in scientific and political conferences
Dr Carlet and other prominent members of WAAAR have presented scientific papers in conferences around the world including Isqua, JNI, MSF, ESICM, Creirif, Santé et Biodiversité, Le Lien, World Health Assembly, Journées de Pathologies exotiques, ISF, Pathologies émergentes, Madrid MoH, and Davos 2015.

WAAAR is a partner of the World Sepsis Day, a collaborator of COMBACTE (4,5).

Work with the United Nations
Putting antibiotics on the UNESCO list is one of its founding members’ objectives.

At the May 2012 World Health Assembly, with the French Ambassador to the UN, and the support of the MoH, the memory of WHO Water and Sanitation Engineer, Yves Chartier, who died in a mountain accident was honoured. Chartier had done outstanding work in infection control and French public health, (Protocol on Natural Ventilation, injection safety, collaboration with USAID on water, guidelines on sanitation). The event and the Journal highlighted the urgency of AMR control with Dr Jean Carlet.


Participation in Oslo’s Diplomacy and Health (Brazil, France, Indonesia, Norway, Senegal and Thailand) meeting in November 2014 sponsored by the Norwegian Institute of Public Health. Outcome document from Oslo meeting “Commitments to Responsible Use of Antimicrobials in Humans” (5).

Participation in COMBACTE, in World Sepsis Day to create guidelines, to support and actions for the Chennai Declaration and European Antibiotic Awareness Day (6,7).

Publications
Dr Jean Carlet has published in scientific journals for more than 20 years, specializing in acute care, on Sepsis, ARDS, issues in infection control and antibiotic resistance. Just in the past few months, Dr Carlet has published in ICHE (Infection Control Hospital Epidemiology), AJRCCM, Indian Journal of Critical Care, CID, Intensive Care Medicine, Réanimation, Lettre infectiologue, ISID Journal of Critical Care, CID, Intensive Care Medicine, Réanimation, Lettre infectiologue, ISID, as well as in the public press (Le Monde, Huffington Post) and he has attended many congresses.

References
1. La Conférence Internationale des Ministres de la Santé sur la prévention et le contrôle de l’infection en milieu de soins en Afrique (CIMSEF), in the news bulletin of WHO-OMS AFRO (in French): http://www.afro.who.int/fr/benin/presse-materials/item/S525-la-cimsef%EF%BF%80%9Fs-int%C3%A9r%C3%A9-%C3%A9tamin-cotonou.html
2. IPCIC’s web site: http://www.ipcic.com
5. Norwegian Institute of Public Health Meeting: “Commitments to the responsible use of antimicrobials” http://www.fhi.no/eway/default.aspx?pid=240&lng=MainContent_6898A8Main_6644=6898.0.25.8195.1.0.0&MainContent_6898=6706.0.25.8195.1.0.0 and outcome document: http://www.fhi.no/dokumenter/739155c179.pdf
7. www.world-sepsis-day.org
Appendix 1: The WAAAR declaration against antibiotic resistance: The Paris Declaration: June 2014

The increase in antibiotic resistant bacteria poses a major healthcare threat. In the face of an almost complete absence of new antimicrobial drugs in development, antibiotic resistance (ABR) has become one of the main public health problems of our time. Antibiotics are a unique class of medications because of their potential societal impact; use of an antibiotic in a single patient can select for ABR that can spread to other people, animals, and the environment, making an antibacterial used in one patient ineffective for many others. Bacterial resistance can evolve rapidly. As bacteria acquire resistance mechanisms, the altered bacterial genetic material coding for resistance mechanisms can be transmitted at times readily between bacteria, broadening the reach and extent of resistance. Treatment failures because of multidrug resistant (MDR) bacteria, once rare, notable, and limited to hospitals, now occur very commonly in hospitals and increasingly in the community as well. It is estimated that at a minimum 25,000 patients in Europe and 23,000 in the USA die each year from infections caused by resistant bacteria. The cost of antibiotic resistance is tremendous, whether measured as the personal and societal burden of illness, death rates, or healthcare costs.

Although it is a never-ended phenomenon, antibiotic resistance is directly related to the volume of antibiotics used. We are using increasing amounts of antibiotics in health care and agriculture, and disseminating these active drugs into the environment. The impact of widespread antibiotic use is enormous, promoting the development and dissemination of antimicrobial resistance.

Safeguarding antibiotics will require a concerted effort by citizens, patients and prescribers. The primary goal of WAAAR is to raise awareness about the urgency and magnitude of the threat and to promote an international dialogue to assist in effective responses. The Alliance, in particular through this declaration, is dedicated to actively promoting antibiotic preservation and to raising awareness among antibiotic prescribers, politicians and policy-makers, patient safety and advocacy groups, the pharmaceutical industry, international health organizations, and the general population. Individual actions, no matter how well intended, are doomed to failure unless there is an international dialogue, a common sense of purpose, and broad consensus on how best to proceed.

We must change how antibiotics are used and adopt proactive strategies, similar to those used to save endangered species. Preservation of the efficacy of antibiotics and to stabilization of antibiotic-susceptible bacterial ecosystems should be global goals.

We urge all of you to participate in this crusade, in your own field of interest. The medical miracle of antibiotic therapy must be protected – this is a global priority and our duty. Please, help us to act NOW, by supporting this declaration, to promote wiser use of antibiotics in animal and human health, and the necessary accompanying political actions to support better education, integrated surveillance for public health action, and research.

WAAAR advocates for the following 10 actions:

- 1. Promotion of awareness of all the stakeholders - including the general public - of the threat represented by antibiotic resistance
  - Strong cooperation among international political, economic and public health organizations, which, all together, must take the lead of this action against antibiotic resistance.

- 2. Organization, in each country, ideally by Ministries of Health or regulatory bodies, of a financed national plan for the containment of antibiotic resistance, with the participation of all stakeholders, including patient advocacy groups

- 3. Continuous access to antibiotics of assured quality, especially in middle and low income countries

- 4. Integrated Surveillance of antibiotic resistance (ABR) and antibiotic use Standardized monitoring of antibiotic use and resistance at institution, regional, and country (comprehensive national data instead) level (through a Centers for Diseases Control and Prevention model) to allow comparative statistics (benchmarking), to be updated preferably in real-time and at least every 12 months. This will require adequate laboratory capacity using international standardized methods that may be facilitated by a centralized technologic coordinating infrastructure and information technology

- 5. Use of diagnostic tests
  - Appropriate use of existing diagnostic tests and development and implementation of new rapid, cost-effective and accurate diagnostic tests, adapted to the local context, to aid in distinguishing bacterial and nonbacterial etiologies. Rapid diagnostics may help clinicians avoid unnecessary treatments, rapidly select appropriate targeted therapies and inform the duration of treatment

- 6. Antibiotic stewardship (prudent, controlled and monitored approaches to the use of antibiotics)
- In humans (hospitals, long term care facilities and primary care),
- In animals (animal husbandry, agriculture, aquaculture and animal health/veterinary setting), in a “one health” philosophy.
- Progressive elimination of the “over the counter” (i.e. available without a prescription) access to antibiotics (systemic and topicals) for humans or animals.
- Ban of the use of antibiotics as growth promotion in food animals, and exceptional use in prophylaxis.
- Rational use of metaphylaxis (Prophylaxis when some animals in the livestock are sick, or at high risk to be sick), and of animal treatment.
- Limitation of the use of critically important antibiotics in humans and animals (e.g., carbapenems)

7. Educational efforts for change
- Educational programs directed at children/teenagers on antibiotics, bacterial resistance, and infection control (e-Bug model)
- Development of large coordinated, effective information and awareness campaigns directed at the public on expectations about the rational/appropriate use of antibiotics.
- Continuous education and training programs in the curriculum for all health care professionals in all settings (veterinarians, medical, dental, nursing, pharmacy and allied health care schools) and continuing professional education programs, on the rational use of antibiotics, including indications, dosing and duration of therapy. Education of farmers

8. Containment of bacterial transmission and prevention of infection
- Promotion of universal hand hygiene and all infection control interventions that have been proven to reduce rates of resistance
- Relentless efforts to prevent transmission of MDR organisms in healthcare, food production and animal husbandry
- Programs to limit the contamination of drinking water with MDR bacteria, as well as contamination of the environment
- Promotion of the use of available vaccines, in humans and animals

9. Basic and applied research, and development of new antibiotics
- Increased support for basic and applied research aiming at curbing bacterial resistance in human and veterinary medicine.
- Use of the principles of orphan drugs for new antibiotics
- Incentives to stimulate research of new drugs (antibiotics and novel compounds) and vaccines via regulatory pathways that allow for fast track development.
- New economic business models to support the cost of innovation while safeguarding public health interests.

10. Request for UNESCO to include the “concept of antibiotic” in the list of the intangible cultural heritage.

WAAAR is a group of 700 individuals from 55 different countries representing all the key stakeholders (physicians, veterinarians, microbiologists, surgeons, pharmacists, nurses, evolutionary biologists, ecologists, environmentalists, patient advocacy groups). The Alliance receives support from more than 140 learned societies or professional groups throughout the world. WAAAR is a nonprofit organization open to professionals and consumers worldwide. WAAAR receives no funding from the pharmaceutical industry

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Appendix 2: “Commitments to Responsible Use of Antimicrobials in Humans” 13-14 November, 2014 Oslo, Norway

We, the participants of the Oslo meeting on responsible use of antimicrobials in humans, gathered in Oslo, Norway on the 13–14 of November, 2014 to discuss the urgent need to improve human use of antimicrobials, and to identify clear strategies and actions to increase their appropriate responsible use while assuring their access. We recognize that prompt coordinated and collective action is essential because of the rapidly growing global spread of antimicrobial resistance.

We acknowledge antimicrobial resistance to be a severe threat to global health that could undermine decades of progress in combating infectious diseases and preventing surgical and other health care related infections, and that misuse and overuse of antimicrobials are key drivers. At the same time, we recognize that where use is warranted, the lack of antimicrobial treatment, or inadequate treatment, either through lack of access or inappropriate use, remains an important contributor to death and illness. We applaud the efforts by WHO to place antimicrobial resistance on the

1 Countries and organizations participating in the Oslo meeting on responsible use of antimicrobials in humans, 13-14 November can be found on the webpage of the Norwegian Institute of Public Health.

2 The meeting on responsible use of antimicrobials in humans is hosted by Brazil, France, Indonesia, Norway, Senegal, South Africa and Thailand, organized together with the WHO.
global agenda to assure continued effectiveness of and access to effective antimicrobials for future generations. In reference to the consultation in The Hague, Netherlands on 25-26 June 2014, we agree that antimicrobial resistance needs a "One Health" approach engaging all stakeholders from the human and animal health, agriculture, aquatic and environmental sectors, both governmental and civil society. We see the ongoing collaboration between the WHO, OIE and FAO as a cornerstone in this work.

We recognize the need to strengthen health systems, noting the importance of interventions to assure infection prevention and control. This should be done through behavioral change, appropriate and timely treatment, immunization coverage and development of new vaccines, access to safe water, hygiene, sanitation, and waste management. Models for supporting research and development into new and novel antimicrobials need to be aligned with global needs. These models should actively explore alternative mechanisms for incentivizing research and development, including delinking research and development costs from product prices, and decoupling reimbursement to manufacturers from the volume of consumption. These models need to include mechanisms to reserve the use and maintain the effectiveness of these new antimicrobials.

This consultation has focused on concrete strategies to shift words into action. We acknowledge the challenges of developing a global action plan which aims to guide efforts to combat antimicrobial resistance in all countries, taking into account the many differences in health systems, culture, ecology, epidemiology and economic status. However, we consider international collective effort, including political commitment at the national level, to be essential for the success of the proposed Global Action Plan in combating antimicrobial resistance. The final Global Action Plan should send a clear and strong message that addressing antimicrobial resistance and responsible use of antimicrobials is a priority for all countries and stakeholders, and the plan should give guidance on how to implement mitigating actions. Political will coupled with concrete steps are the keys to meaningful impact.

**Meeting recommendations:**

We believe that all stakeholders, including policymakers and regulators, providers and health professionals, patients and the public, producers and distributors, and payers, from the public and private sectors and civil society alike, have a shared responsibility to tackle antimicrobial resistance. Together they should develop mechanisms to work cooperatively and constructively to understand the health systems, societal, and economic drivers of inappropriate antimicrobial use, share good practices, limit harmful practices and achieve the goal of responsible use of antimicrobials in humans. These mechanisms are needed to drive locally appropriate and sustained action.

We also agreed that assuring access to appropriate and effective antimicrobial medicines is an integral part of the universal health coverage agenda, as well as maintaining effectiveness of antimicrobials.

This consultation recommends that the following issues that received support during the meeting should be strongly considered during the final formulation of the Global Action Plan on Antimicrobial Resistance:

1. All nations should develop and implement national action plans, including awareness campaigns based on a good understanding of social and cultural realities, for combating antimicrobial resistance and promoting responsible use of antimicrobials, based on a multi-sectoral One-Health approach.
2. Infection prevention and control is essential for minimizing the development of antimicrobial resistance and needs to be prioritized across health care systems.
3. All nations should commit to improving and ensuring universal access to essential vaccines, rapid diagnostic tools, and effective antimicrobials, and to the further development of these important tools.
4. All nations should implement antibiotic stewardship programs across their health care systems. In support of this, the international community should establish a framework (including standards and metrics) to support stewardship efforts, and countries with established expertise should assist other countries to set up their own stewardship programs. For those countries with limited resources and internal capacities, international assistance with financial, material and technical support should be an important consideration.
5. Evidence-based treatment and stewardship guidelines, adjusted for local resistance patterns, epidemiology and differences in health systems, need to be developed, implemented, monitored and evaluated to guide health professionals and other providers in appropriate and sustainable use of antimicrobials.
6. Regulation and assurance of the efficacy, safety and quality of antimicrobials, addressing the full supply and

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*The One Health concept addresses issues of infectious diseases and their control at the interface between human health, animal health, food and agriculture, and the ecosystem, recognizing that infectious organisms often cross species in ways both known and unknown.*
distribution chain, needs to be implemented in all countries.

7. International collaborations should be initiated to address the problems of substandard/spurious/falsey-labelled/falsified/counterfeit medical products as part of the efforts to ensure responsible distribution and dispensing of antimicrobials of good quality, particularly in areas with limited access to health care.

8. Local, national, and international monitoring systems on distribution and consumption of antimicrobials and current resistance patterns (including regional and sub-regional approaches to address cross-border dynamics including areas of conflict, high mobility, and refugees) should be developed and implemented. This information needs to be made publicly available to support an understanding of extent, trends and impact of antimicrobial resistance in all countries using common, validated surveillance methodology.

9. Education and continuing professional education of all health workers who dispense or promote the use of antimicrobials, should include strong elements on the threat of antimicrobial resistance, the drivers and dynamics of antimicrobial resistance, and antibiotic stewardship and other measures to avoid, minimize and mitigate the spread of antimicrobial resistance.

10. Healthcare providers and health professionals should take greater responsibility for promoting responsible use within their communities, including engaging in awareness raising and educational activities among their peers and the public to encourage behavioral change to optimize the effective use of antimicrobials.

11. Access to antimicrobials should be by prescription only or by a similar form of authorization appropriate to the local health care system (e.g., dispensing based on regionally appropriate guidelines).

12. National authorities should implement reimbursement schemes that encourage responsible and appropriate use of antimicrobials.

13. Financial incentives and marketing that stimulate inappropriate antimicrobial prescribing and dispensing practices (including use of broad-spectrum agents, inappropriate prescriptions, dosages or pack sizes, or wrong route of administration or duration of treatment) should be eliminated through legislation or other nationally appropriate measures.

14. Direct-to-consumer-marketing of antimicrobials should be prohibited or tightly regulated in all countries. Although some participants expressed the view that all such marketing should be fully prohibited, consensus was not reached on this point.

15. Antimicrobial manufacturers, importers, wholesalers, and distributors should adopt a code of conduct, limiting the marketing of antimicrobials, while promoting their appropriate use as part of antibiotic stewardship.

16. Medically-important classes of antimicrobials should be restricted to clearly defined criteria for the use of selective medical practitioners only, aimed at preserving the effectiveness of these medications while assuring accessibility and affordability to low income populations. Although some participants expressed the view that new classes of antimicrobials should be restricted to humans only, consensus was not reached on this point.

17. Countries should regulate and enforce control measures on manufacturing waste from production of antimicrobials, and other routes by which antimicrobially active substances, their constituents and byproducts are released into wastewater, soil and air, and should monitor possible impact on the environment and the biosphere.

18. The success of the Global Action Plan is dependent upon international and intersectoral collaboration, to support the development of implementation mechanisms. International bodies should explore ways to strengthen intersectoral collaborations and discuss possibilities for international agreements to combat antimicrobial resistance, including full use and application of the core capacities of the International Health Regulations (2005).