



Meeting: National Biodefense Science Board, June 18, 2008  
Opinion: Alliance for the Prudent Use of Antibiotics (APUA)  
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Antibiotic resistance is one of the major public health threats of the 21st century. Since 1981, the Alliance for the Prudent Use of Antibiotics (APUA) has been the premier organization dedicated to strengthening society's defenses against infectious disease by promoting appropriate antimicrobial access and use and controlling antimicrobial resistance on a worldwide basis. In addition to posing a threat to the US healthcare system and our reliance on high tech medicine, resistant bacteria represent a potential resource for adversaries to exploit in building biological weapons. Given APUA's mission and its activities to preserve antibiotics for future generations, the organization is strongly opposed to the proposal of consumer home storage of antibiotics for post exposure prophylaxis for a biological warfare threat.

This idea of safeguarding antibiotics is highly inadvisable for multiple reasons. Putting active antibiotics in the hands of consumers would likely lead to drug misuse and the ultimate emergence and spread of resistance to that drug. Additionally, the public, widespread distribution of antibiotics would give potential terrorists the ability to identify which medication American citizens will rely on and therefore introduce resistance genes for that medication into their bioterrorist agent of choice. APUA suggests another possibility could be to stock particular local pharmacies with the crucial antibiotic in sufficient quantities to treat their neighborhood population, should the need arise. Novel antibiotics should be reserved for certain pharmacies that guarantee confidentiality and thus protection of drug identity from terrorists. The suggestion, however, also raises the looming possibility that terrorists could acquire these medications and use that information to design an agent untreatable by that drug.

To contain antimicrobial resistance, APUA also advocates the dual approach of surveillance and stewardship. Better monitoring of resistance rates and antibiotic use in humans and animals is needed to extend the life of current antimicrobials. Enemies of the United States could collect and propagate antibiotic resistant organisms for use as biological threat agents directly, or more sophisticated foes could use the environmentally derived, resistant organisms as sources of gene transfer into other, potentially more dangerous microbes. Such a threat underscores the need for an international antibiotic resistance surveillance system coordinating the collection and analysis of pathogens as well as environmental and veterinary commensal organisms that may serve as reservoirs for antibiotic resistance in non-pathogenic bacteria.

APUA's global Reservoirs of Antibiotic Resistance (ROAR) projects have been established to provide the data needed to better understand the diversity of resistance genes in selected organisms in various targeted geographic regions. Funded by NIAID and by USAMRIID, the ROAR projects are intended to improve scientific understanding of the role of commensal bacteria in the spread of antimicrobial resistance. This is approached by 1) compiling existing commensal isolate data and literature into a Web-based bioinformatics tool; 2) using statistical methods to analyze the data in order to determine if the frequency of antibiotic resistance genes in commensals can predict the subsequent emergence of antibiotic resistance in pathogenic bacterial populations and 3) encouraging, directing, and funding research efforts to evaluate antibiotic resistance in commensals.

For the above reasons, APUA strongly opposes the suggested proposal of providing consumers with antibiotics for use post exposure to a bioterrorist attack.