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Nota di contenuto	; Workshop overview. ; Organization of the workshop summary ; ; Antimicrobial drug resistance in context ; ; Microbial evolution and the origins of resistance ; ; Anthropogenic influences on AMR ; ; Staying ahead of AMR ; ; Workshop overview references -- ; Appendix A: Contributed manuscripts. The case for pathogen-specific therapy / Arturo Casadevall ; Waves of resistance : <i>Staphylococcus aureus</i> in the antibiotic era / Henry F. Chambers and Frank R. DeLeo ; Sublethal antibiotic treatment leads to multidrug resistance via radical-induced mutagenesis / Michael A. Kohanski, Mark A. DePristo, and James J. Collins ; Antibiotic-induced resistance flow / Patrice Courvalin ;

Actinobacteria : the good, the bad, and the ugly / Vivan Miao and Julian Davies ; Antibiotics for emerging pathogens / Michael A. Fischbach and Christopher T. Walsh ; Averting a potential post-antibiotic era / Shelley Hearne ; Antibiotic effectiveness : new challenges in natural resource management / Markus Herrmann and Ramanan Laxminarayan ; The role of health care facilities / Ramanan Laxminarayan ; Responding to the global antibiotic resistance crisis : the APUA chapter network / Stuart B. Levy ; Challenges and opportunities in antibiotic discovery / Kim Lewis ; Population mobility, globalization, and antimicrobial resistance / Douglas W. MacPherson ... [et al.] ; The bacterial challenge : a time to react, executive summary / European Centre for Disease Prevention and Control and European Medicines Agency Joint Working Group--Dominique L. Monnet ; The effects of antibiotic and pesticide resistance on public health / David Pimentel ; Clinical issues and outcomes associated with rising antimicrobial resistance / Louis B. Rice ; World Health Organization activities for control of antimicrobial resistance due to use of antimicrobials in animals intended for food / Jørgen Schlundt and Awa Aidara-Kane ; The antibacterial pipeline : why is it drying up, and what must be done about it? / Brad Spellberg ; Challenges in antimicrobial susceptibility testing of clinical and environmental isolates / Fred C. Tenover ; Measuring the cost of antimicrobial-resistant infections : the feasibility and accuracy of economic analysis using electronic medical record databases / Rebecca R. Roberts ... [et al.] ; The antibiotic resistome / Gerard D. Wright -- ; Appendix B: Agenda -- ; Appendix C: Acronyms -- ; Appendix D: Glossary -- ; Appendix E: Forum member biographies -- ; Appendix F: Speaker biographies.

Sommario/riassunto

For decades it seemed as if modern medicine had conquered many of the infectious diseases that once threatened human and animal health. But years of using, misusing, and overusing antibiotics and other antimicrobial drugs have led to the emergence of multidrug-resistant "superbugs." Some strains of bacteria and viruses are now resistant to all but a single drug, while others have no effective treatments at all. The IOM's Forum on Microbial Threats held a public workshop April 6-7 to discuss the nature and sources of drug-resistant bacteria and viruses and their implications for global health. Speakers explored the evolutionary, genetic, and ecological origins of antimicrobial drug resistance and its effects on human and animal health worldwide. Participants discussed the causes of drug resistance; strategies for extending the life of antimicrobial drugs; alternative approaches for treating infections; incentives and disincentives for prudent antimicrobial drug use; and prospects for the next generation of antimicrobial treatments. This document summarizes the workshop--
