

Preface

For many years after the discovery of antibiotics, microbial resistance was largely ignored. Now, however, the prevalence of antibiotic-resistant microorganisms, both in the community and in hospitals, has reached a level that impacts treatment efficacy. New, more potent agents have been introduced, but resistant microbes continue to be selectively enriched. Unfortunately, the problem of drug-resistant microorganisms extends beyond bacteria: it is also of major concern with the management of viral diseases, such as that caused by Human Immunodeficiency Virus, and with parasitic diseases such as malaria. Meanwhile, it is becoming increasingly difficult to identify new compound classes and more active derivatives of existing agents, especially since many pharmaceutical companies have abandoned efforts to find and develop new antimicrobials.

Antimicrobial Resistance and Implications for the Twenty-First Century serves as a status report on resistance. This set of comprehensive, up-to-date reviews by international experts covers problems being observed among a variety of bacteria (*Streptococcus pneumoniae*, enterococci, staphylococci, Gram-negative bacilli, mycobacteria species), viruses (HIV, herpesviruses), and fungi (*Candida* species, fusarium, etc.). The chapters explore molecular mechanisms of drug resistance, epidemiology of resistant strains, clinical implications, and future directions, including strategies for restricting the acquisition of resistance. The work is intended for experts and students in the fields of infectious disease, microbiology, and public health. While our goal is to stimulate basic research on resistance, the work should also help international bodies, such as the World Health Organization, formulate effective plans to combat the acquisition and dissemination of resistant strains. We hope that the documentation provided in *Antimicrobial Resistance and Implications for the Twenty-First Century* can be used by public health and medical communities to exert the political pressure needed to limit the indiscriminate use of antimicrobials and to provide the incentives needed to find new antimicrobials and treatment strategies.