Preface

The problem of antimicrobial resistance knows no boundaries. Drug-resistant microbes of all kinds can move among people and animals, from one country to another—without notice. From the early stages of identifying and discovering antibiotic resistance, the problem was clearly severe in developing countries where drug availability was limited and resistance was high. However, it has been in the developed world, with its abundant resources, where resistance has been more vigorously studied. Therefore, it is of some interest that out of a 1981 meeting in the Dominican Republic, where representatives from developing as well as industrialized countries assembled, came an Antibiotic Misuse Statement declaring the consequences of inappropriate use of antibiotics, namely the emergence and spread of antibiotic resistance. The response to the wide circulation of the statement led to the establishment of the Alliance for the Prudent Use of Antibiotics (APUA). This international organization continues today, 27 years later, to champion increased awareness and appropriate antimicrobial use so as to curtail drug resistance and “preserve the power of antibiotics.” APUA fosters partnerships and communications among people in both developed and developing countries to improve antibiotic accessibility and reverse resistance.

This book, edited by Drs. Anibal Sosa and Denis Byarugaba and their associate editors, is unique in focusing on antimicrobial resistance as it relates to and threatens developing countries. It is curious that it has taken this long to produce a book dedicated to antibiotic resistance in developing parts of the world. One can ask “why?” since resistance is and has been so common there. In fact, whereas resistance has been addressed for the past four decades by experts in the industrialized world, studies describing the problem and the public health situation in the developing world have lagged behind. Although we have learned much from studies of the genetics and molecular biology of the problem from investigations in industrialized countries, it is in developing countries where more studies and efforts are needed. With travel encouraging the transport of microbes, the information in this book will have wide-sweeping benefit, not only for developing countries but also for the world at large. Surveillance of resistance and the prevention of resistance need attention on a worldwide basis. Improving antibiotic use requires a global effort.
One hopes that bringing an organized focus to the problem in developing nations will help efforts to improve accessibility to effective antibiotics and reduce resistance in previously neglected regions and countries of the globe. And so it is relevant that there are chapters in this book devoted to a particular country or region in which resistance poses a life-threatening challenge. We read about treatment failures and resistance challenges in Asia, Africa, and Latin America. The microbes under discussion in the book are not confined to bacteria, but encompass HIV, fungi, and parasites, including the agents of malaria and trypanosomiasis.

Lessons learned in one country can help others. What is needed is a clear idea of what the magnitude of the problem is and what efforts are being made to address it. The focus needs to be on the antimicrobial—its use and its availability—as well as the presence of resistant organisms and their resistance genes. Spread of resistance traits and resistant organisms is a further complicating feature of the resistance problem.

The chapter on the economics of resistance opens the potential for important cost analysis comparisons in this part of the world with studies in hospitals and health-care systems in industrialized countries. Cost is an important obstacle to change but needs to be assessed if we are to see change. Other chapters include discussions of the pivotal positive and negative roles of the pharmaceutical industry in delivering and marketing drugs in the developing world. Quite clearly, greater recognition of the needs and objectives of the stakeholders is critical to an understanding of and a cooperation in improving antibiotic availability and the decreasing frequency of resistance in these parts of the world.

The authors of these chapters are each distinguished in their own right and internationally recognized. The subjects are broadly inclusive of different infectious diseases, including those of the respiratory, urinary, and gastrointestinal tracts. The role of vaccines in helping to control organisms and avoid the overuse of antibiotics is critically important and discussed.

It is time, and timely, to focus attention on the developing countries in terms of helping people understand their role in reversing the global resistance problem. This book is an important step and will join other efforts, at both the government and nongovernment levels, including those of such organizations as the Alliance for Prudent Use of Antibiotics, the World Health Organization, the Pan American Health Organization, and others, to bring attention and potential solutions to the antimicrobial resistance problem as it presents in developing countries. The book shows how the problem has similar causes and the solution has similar goals as those in the industrialized countries. Drug resistance has no geographic preference—it compromises infectious disease treatments in countries throughout the world.
Antimicrobial Resistance in Developing Countries
2010, XXIII, 554 p., Hardcover