An Integrated View of the One-Health Movement: The Oneness of Human Health
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Do not let the word “one” in the title fool you. This twenty-chapter book gathers more than seventy experts of various disciplines, including microbiology, medical and veterinary sciences, ecology, conservation biology, epidemiology, public health, bioinformatics, and more, from all over the world. Their work is presented across five sections: 1) One health: what is it and why is it important? 2) Zoonotic and environmental drivers of emerging infectious diseases; 3) One health and antibiotic resistance; 4) Disease surveillance; and 5) Making one health a reality. The chapters within address health using ecological approaches to studying zoonoses, food-borne disease, RNA viruses, cholera, antibiotic resistance, public health disease surveillance, wildlife diseases, and cases in Africa. The book provides readers an inclusive “all-in-one” view of human health.

While topics included in this book are individually diverse and complicated in nature, they are woven together by the shared emphasis on the interdependence between human health, animal health, and environmental health and on the need for the one-health paradigm shift to effectively control infectious diseases. Here is the take-home message: Because the vast majority of emerging and reemerging infectious diseases in humans are zoonoses and infectious diseases in animals are easily influenced by environmental factors, achieving optimal human health requires collaborative, integrated, and multidisciplinary approaches in human medicine, veterinary medicine, and environmental sciences. A paradigm shift in how we respond to the threat of infectious diseases—one that focuses on surveillance of the environment, animals, and humans to predict an outbreak and to prevent it from happening—is needed.

Due to the interdisciplinary nature of the subject, each review chapter covers introductory and background information, in both the life sciences and the social sciences, to bring readers up to speed on the current status of the issue. Thus, compared to other special topic ASM publications, this book is detectably flavored by a hint of social sciences. The “concluding remarks” section at the end of almost every chapter not only gives the book a cohesive structure in terms of format, making the diverse writing styles less overwhelming, but also provides an effective looking-back summary and/or looking-ahead planning. Despite the number of authors and the diversity of their specialties and writing styles, the book is considerably approachable and readable.

The fact that this book offers more in breadth than in depth makes it adaptable for undergraduate courses. However, the introductory information in each chapter is still not general enough for this book to be “introductory course” friendly. Even for an upper-level elective course, such as infectious disease ecology and public health microbiology, I would make microbiology, or at least introductory biology, a prerequisite and I would still provide background information before I assign a chapter for students to read. To better engage students in learning the public health and social science aspects of one health, especially the surveillance networks, I would develop case studies or hands-on computer laboratory activities, and use selected clips on zoonotic diseases (e.g., Planet in Peril by CNN, http://www.cnn.com/services/opk/planet.peril/for.html).

Overall, the all-encompassing-ness of the book matches the ambitious intention of editors Atlas and Maloy and the importance of the one health concept. It is an excellent recommended textbook for upper-level undergraduate biology elective courses.

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