

Preface

Zoonoses are infectious diseases caused by microorganisms passing from animals to humans and vice versa. In the last few decades most emerging and re-emerging diseases were in fact either of zoonotic origin or zoonotic potential.

The term “zoonosis” was coined by the German physician Rudolf Virchow, mainly known as father of scientific pathology, but also as an important political figure in nineteenth century Germany. Although rooted in a classical faculty-based university system, he and his Canadian disciple William Osler, also a physician by training, very early recognized the need for interdisciplinary collaboration between human and veterinary medicine and also—probably even more importantly—the public health, social and political aspects of zoonotic diseases. While the scientific basis for both of them was pathology, the rise of microbiology as a medical discipline allowed to put the focus on microorganisms as the obvious and easiest walkable bridge between human and animal infectious diseases. This is even more true since the advent of especially DNA-based typing techniques for analyzing microorganisms isolated from different species thus allowing to study their real zoonotic potential.

By incorporating life and social science subdisciplines (e.g. immunology or epidemiology) a systemic paradigm was introduced in medical science thus preparing the ground for inter- and transdisciplinary approaches both in human and veterinary medicine. A striking example for the consequences of this paradigm shift on a population level are the concepts of New Public Health.

Not at last driven by the need for global public health efforts to combat both real or anticipated releases from Pandora’s box in an interconnected and globalized world the One Health concept rapidly gained momentum in the last decade after the establishment of the 2004 “Manhattan Principles”.

This book is based on the One Health concept with a focus on the public health impacts of zoonoses, both medically and societally. Important aspects in understanding zoonoses are not restricted to more classical issues, e.g. their epidemiology in both humans and animals or disease symptoms in the respective two-legged, four- or more-legged, feathered or unfeathered species, but have to take into account molecularly based epidemiological data and systemic, e.g. ecological approaches.

To give an impression of the wide range of zoonotic research issues, the authors of this book were chosen from a variety of academic and professional backgrounds, from the fields of human and veterinary medicine, from universities and public health institutions, and from all continents. The underlying idea was not to get an encyclopedic review on all known zoonotic disease entities, but to have a forum for identifying or discussing urgent issues of zoonoses under a public health perspective. Accordingly, the main target groups are the respective scientific communities, medical and veterinary practitioners, their students, public health and veterinary public health practitioners as well as decision makers in the field of public health and veterinary public health.

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