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Infectious disease epidemiology theory & practice

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Diagnostic Microbiology and Infectious Disease

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Infectious Disease Epidemiology Theory & Practice

K. E. Nelson, C. M. Williams, & N. M. H. Graham, eds.;
726 pages & index ISBN 0-8342-1766-X, pub. 2001,
Aspen Publishers Inc. Gaithersburg, MD

While it most likely is not readily admitted most, if not all, medical schools at best give lip service to a course on introduction to epidemiology. Fortunately departments or schools of public health, departments of geographic or international medicine do emphasize the important role of epidemiology in the overall prevention and control of disease. When viewed in toto, epidemiology encompasses virtually every aspect of medicine. It follows that a suitable, comprehensive text book on epidemiology would be an immense undertaking and probably would require several volumes.

Fortunately the need for a good text book on the epidemiology of infectious diseases has been met. This book, in which the editors serving also as chapter authors, together with twenty three additional authors, represents a solid contribution to the epidemiology of infectious disease.

Beginning with chapters on the early history of infectious disease and the evolution of epidemiologic principles (which evolved hand-in-glove) the editors set the stage for a book that readily lends itself as a text for studying and teaching the epidemiology of infectious diseases. The book consists of 23 chapters divided among six parts. Part I deals with Methods in Infectious Disease Epidemiology in which eleven chapters cover the essential ingredients of the fundamentals of the epidemiology of infectious diseases ranging from surveillance, setting up protocols for outbreaks, mathematical modeling, laboratory support, including application of molecular typing systems, immunization programs, and their efficacy. Part II covers Emerging and Nosocomial Infections, Part III, Airborne Transmission, Parts IV and V Diarrheal, Blood, and Body Fluid infections, and Part VI Vectorborne and Parasitic Diseases.

Despite this extensive coverage there are certain omissions that should be mentioned. Mycotic diseases are not covered as a group even though they may present an epi-

demologic challenge at times. The same is true for the sick building syndrome, rabies, and mad cow disease, which are growing as a serious environmental and public health problem. Similarly, the epidemiology of bioterrorism deserves a more elaborate coverage as such events are considered to be a top priority in terms of detection, control, prevention and epidemiology. Also, the omission of material on safety measures to be employed in epidemiologic investigations was conspicuously absent.

There are also some statements that are conflicting: For example in Chapter 16 on the Epidemiology of Influenza, the statement is made "The clinical disease influenza is familiar because everyone has been infected." Two paragraphs later it is stated . . . "influenza virus infection cannot be reliably diagnosed from clinical signs and symptoms." Another example of an overstatement is on page 55 where a patient diagnosed with rabies was apparently successfully treated after two months of intensive therapy. The author views this case as a challenge to the belief that rabies is always fatal in humans once the symptoms appear. Despite this single report of a therapeutic recover, rabies is still considered to be 100% fatal once symptoms appear.

On page 176 & 177 there is a table listing examples of bacteria of medical importance. One grouping of gram negative bacilli has a subheading of "Enterobacteriaceae" and at least nine different genera and species are listed that are not Enterobacteriaceae; in fact, *Fusobacterium nucleatum* is an obligate anaerobe. This same table lists *Mycoplasma* spp under a heading of "obligate intracellular bacteria" which is not the case with these organisms.

Although these minor points are annoying they do not significantly detract from the overall value of this book. It lends itself admirably to a course dealing with the epidemiology of infectious diseases. The coverage is extensive; tables, graphs, diagrams, and mathematical modeling are skillfully presented and the cost is reasonable in today's market place.

Albert Balows, Ph.D.
Book Editor

Source: Centers for Disease Control and Prevention. Principles of epidemiology, 2nd ed. Atlanta: U.S. Department of Health and Human Services;1992. Reservoir. Many common infectious diseases have human reservoirs. Diseases that are transmitted from person to person without intermediaries include the sexually transmitted diseases, measles, mumps, streptococcal infection, and many respiratory pathogens. Because humans were the only reservoir for the smallpox virus, naturally occurring smallpox was eradicated after the last human case was identified and isolated.

8. Semantic Scholar extracted view of "Infectious Disease Epidemiology: Theory and Practice" by P. Axelsen. @article{Axelsen2001InfectiousDE, title={Infectious Disease Epidemiology: Theory and Practice}, author={P. Axelsen}, journal={JAMA}, year={2001}, volume={286}, pages={355-356} }. P. Axelsen. Published 2001. Medicine. JAMA. View via Publisher. Save to Library.

PART 1 "METHODS IN INFECTIOUS DISEASE EPIDEMIOLOGY 1 Chapter 1 Early History of Infectious Disease: Epidemiology and Control of Infectious Diseases 3 Kenrad E. Nelson and Carolyn Masters Williams. Introduction 3 The Era of Plagues 3 Early Epidemiology 4 The Observation and Care of Patients 6 The Development of Statistics and Surveillance 7 The Discovery of Microorganisms 8 The Twentieth Century 12 What Lies Ahead 13 The Infectious Diseases Challenge 15 References 16. wrong theories or knowledge has hindered advances in understanding, one can also cite examples of great creativity when scientists have successfully pursued their theories beyond the knowledge of the time. Epidemics of infectious diseases have been documented throughout history.