



## Transition Guide

### ***Managerial Epidemiology: Cases and Concepts, Fourth Edition***

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This book provides a comprehensive introduction to epidemiology and its use in healthcare management. Extensively revised, this edition demonstrates, through 64 real-world case studies and numerous examples, how the tools and principles of epidemiology can help managers make better-informed decisions.

#### Changes in the Fourth Edition

Chapter	Chapter Title	New Material
1	An Introduction to Managerial Epidemiology	This chapter offers an overview of how the book is organized. In addition to outlining chapter content, this introduction provides details on the book's case studies—in chapter cases, end-of-chapter cases and capstone cases.
2	Population Health	<b>NEW CHAPTER.</b> This chapter discusses the definitions of population, population health, population health outcome, and health determinant. It includes an in-depth discussion of the effects of age, socioeconomic status, race and ethnicity, sex, marital status, and religion on population health outcomes. The case study focuses on infant mortality disparities by race and ethnicity.
3	Infectious Disease Epidemiology	This chapter provides an overview of disease transmission and control, with a specific focus on infectious diseases—incorporating new content on healthcare associated infections. The two new case studies explore surgical site infections tracked by the

		National Healthcare Safety Network and a hepatitis B outbreak at a skilled nursing facility.
4	Measuring and Interpreting Morbidity	This chapter deals with the measurement and interpretation of morbidity data, including the nature, definition, and natural history of disease and sources of morbidity data. New sections explore fixed and dynamic populations, the classes of mathematical parameters, and simultaneous and sequential screening. Updated content includes a section on incidence and prevalence. The two case studies focus on epidemiologic investigation of congestive heart failure and the effectiveness of breast cancer screening (new case study).
5	Healthcare Planning and Needs Assessment	This chapter discusses needs assessment and community needs assessment and delves into aspects of strategy and planning—providing new content especially on strategic planning. Other types of planning covered include institutional, community health, and human resources planning. New sections on geographic or service area markets and forecasting round out the expanded coverage. The chapter's revised and updated case study deals with determining bed demand for cardiac care in a new hospital construction project.
6	Quality of Care Measurement	This chapter applies epidemiologic principles to quality of care issues. It discusses the various ways quality can be assessed using epidemiologic measures and in which epidemiology can play a fundamental role in total quality management. The two hospital case studies explore methicillin-resistant <i>Staphylococcus aureus</i> surveillance and patient quality-of-care indicators.
7	Mortality and Risk Adjustment	Featuring updated exhibits, this chapter concentrates on mortality and discusses the sources and measurement of mortality data, methods for standardizing mortality rates by age, and the process of risk-adjusting mortality rates. The case study addresses age and sex adjustment in two managed care organizations.
8	Epidemiology and Healthcare Financial Management	<b>NEW CHAPTER.</b> This chapter reviews the principles of epidemiology as they relate to financial management. The authors discuss moving from a disease-based approach to medical care toward a proactive healthcare system. They present current initiatives, the social determinants of health that affect population health, and a detailed exploration of the role of epidemiology in policies and programs. The authors conclude with discussion of monitoring population health needs and measuring quality and outcomes. The two case studies

		focus on HACRP penalties and variation in health insurance exchange premiums.
<b>9</b>	Cost-Effectiveness Analysis	This chapter covers cost-effectiveness analysis (CEA), including the process of program specification, measuring effectiveness (including quality-adjusted life years), controlling for biased estimates, measuring costs, conducting cost-benefit analysis, choosing among programs using cost-effectiveness ratios, and coping with uncertainty. The new case study reviews a cost-effectiveness analysis of three types of bariatric surgery.
<b>10</b>	Case-Control Studies	This chapter explains the history of case-control studies, describes selection of cases and controls, and explores the concept of exposure. The new case study examines diabetes and the risk of community-acquired <i>Staphylococcus aureus</i> bacteremia.
<b>11</b>	Cohort Studies	This revised chapter presents the types of cohort studies and selection of cohorts, defining exposures and identifying, classifying, and measuring outcomes within the context of a cohort study. The chapter also explains survey methodology and discusses advantages and disadvantages of cohort studies. The case study illustrates the relationships among smoking, heart disease, and lung cancer.
<b>12</b>	Randomized Clinical Trials	This revised chapter explores crossover, stepped wedge, and factorial designs; cluster randomized and community trials; randomization; and blinding. The authors explain statistical analysis of randomized clinical trials and ethical considerations researchers must take into account in conducting such trials. The case study illustrates a factorial study design with vitamin E and n-3 polyunsaturated fatty acids after myocardial infarction.
<b>13</b>	Confounding, Effect Modification, and Bias	<b>NEW CHAPTER</b> Extensively revised and consolidated from other chapters, this chapter focuses on the concepts of confounding, effect modification, and bias. The two case studies examine possible relationships between coffee and pancreatic cancer and between smoking and low birth weight newborns.
<b>14</b>	Clinical Epidemiology and Decision Making	This chapter describes the clinical encounter in terms of diagnosis, treatment, and prevention and discusses how epidemiology should provide the evidence necessary for rational decisions. The chapter features four clinical-encounter vignettes and a case study on the use of clinical decision-making tools.
<b>15</b>	Epidemiology and Leadership	This chapter discusses how epidemiology provides the context by which both public health and healthcare leaders engage in decision making.