FOURTH EDITION

NURSING RESEARCH

READING, USING, AND CREATING EVIDENCE
The Pedagogy

Nursing Research: Reading, Using, and Creating Evidence, Third Edition demonstrates how to use research as evidence for successful nursing practice. Fully updated and revised, this reader-friendly new edition provides students with the fundamentals of appraising and utilizing research and translating it into actionable guidelines for practice. Organized around the different types of research in evidence-based practice, it addresses contemporary methods, especially the use of technology in data collection, advice for culturally competent research, and suggestions for accessing hard to reach subjects. Additionally, it explores both quantitative and qualitative traditions as they apply as evidence, and encourages students to read, use, and participate in the research process. The pedagogical aids that appear in most chapters include the following:

Chapter Objectives
These objectives provide instructors and students with a snapshot of the key information they will encounter in each chapter. They can serve as a checklist to help guide and focus study. Access the online resources that accompany this text to complete these objectives and submit them directly to your instructor.

Key Terms
Found in a list at the beginning of each chapter and in bold within the chapter, these terms will create an expanded vocabulary in evidence-based practice. Access the online resources that accompany this text to see these terms in an interactive glossary and use flashcards and word puzzles to nail the definitions.
Voices from the Field
Found at the beginning of each chapter, these features illustrate stories from practicing nurses and their real experiences with the research process.

New Term
Found in the margins, these notes provide definitions of key terms when they first appear in the chapter.
Case in Point These case studies expand upon concepts in the chapter and test your knowledge in real-life settings. Access the online resources that accompany this text to answer the questions and submit them to your instructor.

Where to Look This feature provides guidance on where to look for the key elements of a research paper, the wording that might be used to describe them, and specific things to look for during the evaluation process.

Checklist These lists support the “Where to Look” features and provide students with an evaluation of specific research activities and issues.

For More Depth and Detail These reference lists are provided for a more in-depth look at the key concepts covered in select chapters.
Summary of Key Concepts

Found at the end of each chapter, these lists compile the most pertinent concepts and information for quick review and later reference.

Critical Appraisal Exercises

Found at the end of each chapter, these exercises direct readers to apply the chapter concepts to a full-length research report. Access the online resources that accompany this text to complete your answers to each question.

Skill Builder

Found in select chapters, these features provide practical advice for finding research, reading it critically, and strengthening research skills.
World Headquarters
Jones & Bartlett Learning
5 Wall Street
Burlington, MA 01803
978-443-5000
info@jblearning.com
www.jblearning.com

Jones & Bartlett Learning books and products are available through most bookstores and online booksellers. To contact Jones & Bartlett Learning directly, call 800-832-0034, fax 978-443-8000, or visit our website, www.jblearning.com.

Substantial discounts on bulk quantities of Jones & Bartlett Learning publications are available to corporations, professional associations, and other qualified organizations. For details and specific discount information, contact the special sales department at Jones & Bartlett Learning via the above contact information or send an email to specialsales@jblearning.com.

Copyright © 2018 by Jones & Bartlett Learning, LLC, an Ascend Learning Company.

All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from the copyright owner.

The content, statements, views, and opinions herein are the sole expression of the respective authors and not that of Jones & Bartlett Learning, LLC. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not constitute or imply its endorsement or recommendation by Jones & Bartlett Learning, LLC and such reference shall not be used for advertising or product endorsement purposes. All trademarks displayed are the trademarks of the parties noted herein. Nursing Research: Reading, Using, and Creating Evidence, Fourth Edition is an independent publication and has not been authorized, sponsored, or otherwise approved by the owners of the trademarks or service marks referenced in this product.

There may be images in this book that feature models; these models do not necessarily endorse, represent, or participate in the activities represented in the images. Any screenshots in this product are for educational and instructive purposes only. Any individuals and scenarios featured in the case studies throughout this product may be real or fictitious, but are used for instructional purposes only.

The author, editor, and publisher have made every effort to provide accurate information. However, they are not responsible for errors, omissions, or for any outcomes related to the use of the contents of this book and take no responsibility for the use of the products and procedures described. Treatments and side effects described in this book may not be applicable to all people; likewise, some people may require a dose or experience a side effect that is not described herein. Drugs and medical devices are discussed that may have limited availability controlled by the Food and Drug Administration (FDA) for use only in a research study or clinical trial. Research, clinical practice, and government regulations often change the accepted standard in this field. When consideration is being given to use of any drug in the clinical setting, the health care provider or reader is responsible for determining FDA status of the drug, reading the package insert, and reviewing prescribing information for the most up-to-date recommendations on dose, precautions, and contraindications, and determining the appropriate usage for the product. This is especially important in the case of drugs that are new or seldom used.

15833-5

Production Credits
VP, Executive Publisher: David D. Cella
Executive Editor: Amanda Martin
Editorial Assistant: Emma Huggard
Senior Production Editor: Amanda Clerkin
Senior Marketing Manager: Jennifer Scherzay
Product Fulfillment Manager: Wendy Kilborn
Composition: S4Carlisle Publishing Services
Cover Design: Scott Moden
Rights & Media Specialist: Wes DeShano
Media Development Editor: Troy Liston
Cover Image: © Valentina Razumova
Printing and Binding: RR Donnelley
Cover Printing: RR Donnelley

Library of Congress Cataloging-in-Publication Data
Title: Nursing research : reading, using, and creating evidence / Janet Houser.
Identifiers: LCCN 2016038194 | ISBN 9781284110043
Subjects: | MESH: Clinical Nursing Research--methods | Evidence-Based Nursing | Research Design
Classification: LCC RT81.5 | NLM WY 20.5 | DDC 610.73072–dc23
LC record available at https://lccn.loc.gov/2016038194

Printed in the United States of America
20 19 18 17 16 10 9 8 7 6 5 4 3 2 1
Contents

Preface xv
Acknowledgments xix
Contributors xxi
About the author xxiii

Part I: An Introduction to Research 1

1 The Importance of Research as Evidence in Nursing 3
Research as Evidence for Nursing Practice 3
What Is Nursing Research? 5
Research: A Fundamental Nursing Skill 5
The Evolution of Research in Nursing 6
Contemporary Nursing Research Roles 9
Research Versus Problem Solving 11
Research as Evidence in Nursing Practice 13
Evidence-Based Practice 13
The Importance of Evidence-Based Practice in Nursing 16
How Can Evidence Be Used in Health Care? 17
Strategies for Implementing Evidence-Based Practice 19
Strategies for Overcoming Barriers 20
Reading Research for Evidence-Based Practice 21
Using Research in Evidence-Based Practice 22
Creating Evidence for Practice 26
Future Directions for Nursing Research 26
Summary of Key Concepts 27
For More Depth and Detail 28
References 29

2 The Research Process and Ways of Knowing 31
Introduction 31
The Research Process 32
Classification of Research by Philosophical Assumptions About the Nature of the World 34
Choosing a Design 38
Classifications of Research by the Intent of the Researcher 40
Classifications of Research by the Nature of the Design
Classifications of Research by the Time Dimension
Reading Research for Evidence-Based Practice
Using Research in Evidence-Based Practice
Creating Evidence for Practice
Summary of Key Concepts
For More Depth and Detail
References

3 Ethical and Legal Considerations in Research
Introduction
Learning from the Past, Protecting the Future
International Guides for the Researcher
National Guidelines for the Nurse Researcher
The Ethical Researcher
Legal and Regulatory Guidelines for Conducting Research
Institutional Review Boards
Research Involving Animals
Research Misconduct
The HIPAA Privacy Rule
Reading Research for Evidence-Based Practice
Using Research in Nursing Practice
Creating Evidence for Practice
Summary of Key Concepts
For More Depth and Detail
References

Part II: Planning for Research

4 Finding Problems and Writing Questions
Introduction
Finding and Developing Research Problems
Developing the Research Question
Reading Research for Evidence-Based Practice
Using Research in Evidence-Based Practice
Creating Evidence for Practice
Summary of Key Concepts
For More Depth and Detail
References

5 The Successful Literature Review
An Introduction to the Literature Review
Purpose, Importance, and Scope of the Literature Review
Types of Literature Used in the Review
Searching for the Evidence in a Research Problem
Summary of Key Concepts
For More Depth and Detail
References
9 Enhancing the Validity of Research

Introduction
Minimizing Threats to Internal Validity
Factors That Jeopardize Internal Validity
Factors That Jeopardize External Validity
Balancing Internal and External Validity
Trustworthiness in Qualitative Research
Strategies to Promote the Validity of Qualitative Research
Reading a Research Study to Determine Validity
Using Valid Studies as Evidence for Nursing Practice
Creating a Valid Research Study
Summary of Key Concepts
For More Depth and Detail
References

Part IV: Research the Describes Populations

10 Descriptive Research Questions and Procedures

Introduction
Descriptive Research Studies
Characteristics of a Descriptive Design
Describing Groups Using Surveys
Describing Groups Relative to Time
Describing the Responses of Single Subjects
Designs That Describe Relationships
Reading Descriptive Research
Using Descriptive Research in Evidence-Based Nursing Practice
Creating Descriptive Research
Summary of Key Concepts
References

11 Summarizing and Reporting Descriptive Data

Introduction
An Overview of Descriptive Data Analysis
Understanding Levels of Measurement
Identifying Shape and Distribution
Describing the Center and Spread
Common Errors in Summarizing Data
Reading the Descriptive Data Section in a Research Study
Using Descriptive Data Analysis in Practice
Creating Descriptive Data Summaries for a Research Study
Reporting Descriptive Results
Summary of Key Concepts
References
This nursing research text is based on the idea that research is essential for nurses as evidence for practice. Its contents are intended to be relevant for undergraduate nursing students, RNs who are returning to school, and practicing nurses who must apply evidence to practice. All nurses should be able to read research, determine how to use it appropriately in their practice, and participate in the research process in some way during their careers as professionals. This text is intended to support all these efforts.

Evidence-based practice is one of the most exciting trends in nursing practice to emerge in decades. However, its integration into daily practice requires a solid understanding of the foundations of research design, validity, and application. This text is intended as a reader-friendly approach to a complex topic so that beginners can grasp the fundamentals of appraising research, experienced nurses can use research in practice, and practicing nurses can gain skills to create bedside research projects or participate effectively on research teams.

This text is presented in an uncluttered, straightforward manner. Although it uses many bulleted lists to make the material visually interesting, the sidebars, figures, and tables are limited to those that illustrate truly important concepts. This format allows the reader to grasp the information quickly and to navigate the text efficiently. Margin notes provide definitions of new terms when they first appear, and the Gray Matter features offer information about key concepts that are of particular importance.

This text differs in its approach from traditional texts in that it does not focus primarily on interpreting inferential research; rather, it seeks to impart a fundamental understanding of all types of research that may be used as evidence. It adds depth by considering the use of qualitative research in nursing practice—a natural fit with this holistic profession. This text also addresses contemporary concerns for today’s nurses, including ethical and legal issues. Although both ethics and legal issues are mentioned in many research texts, a full chapter is devoted to these topics in this text so that the intricacies of these issues can be thoroughly considered.

The integrated discussion of both the quantitative and the qualitative traditions is another unique facet of this text’s coverage of the research process. Most nurse researchers have learned to appreciate the need to consider all paradigms when approaching a research question; separating the two approaches when discussing the fundamental interests of researchers results in a polarized view. Intuitively, nurses know that the lines between quantitative and qualitative designs are not always so clear in practice and that they should consider multiple ways of knowing when evaluating research questions. The planning process covered here helps the novice researcher consider the requirements of both approaches in the context of sampling, measurement, validity, and other crucial
issues they share. Detailed descriptions of the procedures for each type of design are given attention in separate chapters.

The chapters are organized around the types of research processes that make up the evidence base for practice. The first section of the text provides information that is applicable to all research traditions, whether descriptive, quantitative, or qualitative. Part I provides an overview of issues relevant to all researchers: understanding the way research and practice are related, the ways that knowledge is generated, and legal and ethical considerations. Part II describes the processes that go into planning research. The chapters in Part III consider the various decisions that must be made in each phase of the research process.

The evidence generated by descriptive, survey, and qualitative designs is placed in the context of both the definition of evidence-based practice and application in practice guidelines. In Parts IV, V, and VI, each major classification of research is explored in depth through review of available designs, guidelines for methods and procedures, and discussion of appropriate analytic processes. Brief examples of each type of research are provided, along with notes explaining the features demonstrated in each case in point. Finally, Part VII details the models and processes used to translate research into clinical practice.

Many chapters begin with a feature called “Voices from the Field” that relates a real-life story of a nurse’s experience with the research process, illustrating the way that the material covered in that chapter might come to life. The main content for each chapter is broken into five parts:

- A thorough review of the topic under consideration is presented first. This review lays out the fundamental knowledge related to the topic.
- Next, the nurse is guided to consider the aspects of a study that should be appraised when reading research. All nurses—regardless of their experience—should be able to read research critically and apply it appropriately to practice, and the second section of each chapter addresses this skill. Added features include advice on where to look for the key elements of a research paper, the wording that might be used to describe them, and specific things to look for during the evaluation process. Evaluation checklists support this process.
- The third section of the chapter focuses on using research in practice. This section supports the nurse in determining if and how research findings might be used in his or her practice.
- The fourth section is intended for nurses who may be involved with teams that are charged with creating research or who may plan bedside research projects to improve practice. This section gives practical advice and direction about the design and conduct of a realistic, focused nursing research project.
- The final section of each chapter contains summary points and a critical appraisal exercise so that the nurse can immediately apply the chapter concepts to a real research report.

Online materials provide support for both students and faculty. An online workbook is available to support students or nurses as they study the material or to use directly as a
learning exercise in an electronic environment. These materials also provide novel support through discussion threads or topics available for posting on electronic discussion boards or in course chat rooms for online courses. Teachers can find slide presentations, suggested in-class exercises, and Web-based resources to support the instructional process.

All of these features are intended to help the reader gain a comprehensive view of the research process as it is used to provide evidence for professional nursing practice. The use of this text as a supportive resource for learning and for ongoing reference in clinical practice has been integrated into the design of each element of the text. The goal is to stimulate nurses to read, use, and participate in the process of improving nursing practice through the systematic use of evidence. Accomplishing this goal improves the profession for all of us.
Acknowledgments

It is a bit misleading to conclude that a text is produced solely by the person whose name appears on the cover. Help and support are needed from many people on both professional and personal fronts to complete a project of this size. The help of editorial staff is always welcome; advice from Amanda Martin was invaluable in merging the interests of writing with those of producing a book that others will want to read. I appreciate Amanda Clerkin’s calm and steady approach after our sixth manuscript together, and I’ve learned a lot from reading Jill Hobbs’s edits, which I must begrudgingly admit make my writing much better.

My family—my husband, Floyd; my sisters, Anne and Ande; my niece, Stef; and mini-me, Amanda—provided me with enough encouragement to keep going, even as they reminded me there is life beyond the pages of a book.

I must thank Regis University profusely for providing me with inspirational colleagues and a place that supports my work. Pat Ladewig, as always, provided pragmatic advice and guidance from her impressive experience publishing her own texts. My contributors and reviewers each provided a unique viewpoint and helped me discover the best way to ensure that students “get it.”

Writing always makes me realize how much I miss my mom, Marty, who encouraged me to publish from the time she surreptitiously sent one of my poems to Highlights magazine when I was nine. She was proud of that poem, framed the issue, and had my grandmother embroider it on a pillow. Seeing this book in print would have impressed her only slightly more, but I know she’s smiling.
Contributors

Michael Cahill, MS, CPHQ
Parker Adventist Hospital
Parker, Colorado
Summarizing and Reporting
Descriptive Data

Sheila Carlon, PhD, RHIA, FAHIMA
Regis University
Denver, Colorado
Ethical and Legal Considerations in
Research

Phyllis Graham-Dickerson, PhD, RN, CNS
Regis University
Denver, Colorado
Qualitative Research Questions and
Procedures
Analyzing and Reporting Qualitative Results

LeeAnn Hanna, PhD, RN, CPHQ, FNAHQ
HCA, TriStar Centennial Medical Center
Nashville, Tennessee
Finding Problems and Writing Questions

Kimberly O’Neill, MS
Dayton Memorial Library, Regis University
Denver, Colorado
The Successful Literature Search
About the Author

Janet Houser, PhD, RN
Regis University

Dr. Janet Houser is currently Provost at Regis University in Denver, Colorado. Prior to her appointment, she was Dean of the Rueckert-Hartman College for Health Professions and the Vice Provost for Resource Planning.

Dr. Houser has a BSN, an MN in Maternal-Child Health, an MS in healthcare administration, and a PhD in applied statistics and research methods. She has taught nurses, administrators, pharmacists, and physical therapy students from undergraduate through doctoral level, primarily in the subjects of research methods, biostatistics, and quantitative methods. Previous to her position as Dean, Dr. Houser was faculty and Associate Dean for Research and Scholarship.

Dr. Houser spent 20 years in healthcare administration with the Mercy Health System. Her last position was as Regional Director for Professional Practice for Mercy Health Partners in Cincinnati, Ohio, where she was responsible for professional practice and clinical research in 29 facilities.

Dr. Houser has published five books, Clinical Research in Practice: A Guide for the Bedside Scientist, Nursing Research: Reading, Using, and Creating Evidence, which is in its fourth edition, and Evidence-Based Practice: An Implementation Guide. She has more than 30 peer-reviewed publications in journals and has presented her research at regional, national, and international conferences.