How to Write, Publish, and Present in the Health Sciences: A Guide for Clinicians and Laboratory Scientists

With a Foreword by Stanly Lemeshow, PhD, Professor and Dean College of Public Health, The Ohio State University

Contents

1. An Overview of Writing and Publishing in the Health Sciences

Part I: How to Write in the Health Sciences

- 2. How to Write Effectively: Making Reading Easier
- 3. How to Write Efficiently: Making Writing Easier
- 4. How to Display Data in Tables and Graphs
- 5. How to Write an Abstract
- 6. How to Write a Grant Proposal
- 7. How to Write an Article Reporting Original Research

Part II: How to Publish in the Health Sciences

- 8. Ethics in Research and Publishing
- 9. How to Prepare Drawings and Photographs for Publication
- 10. How to Document Biomedical Images for Publication
- 11. How to Publish in a Scientific Journal

Part III: How to Publish in the Health Sciences

12. How to Prepare and Present Slide Presentations

13. How to Prepare and Present Scientific Posters

Contents in Detail

1. An Overview of Writing and Publishing in the Health Sciences

A BRIEF HISTORY OF SCIENTIFIC PUBLICATIONS

The First Scientific Journals
The Development of the Scientific Article
The Beginnings of Organized Biomedical Writing and Publishing
Advances in Scientific Reporting and Documentation

TYPES OF SCIENTIFIC ARTICLES

Observational Articles
Theoretical Articles
Experimental Articles
Methodological Articles
Review Articles
Other Forms of Communication in Journals

TYPES OF JOURNALS

ELECTRONIC PUBLICATIONS

On-line Journals Preprint Servers Open-Access Publishing Self-Archiving

BOOKS

THE FUTURE

Part I: How to Write in the Health Sciences

2. How to Write Effectively: Making Reading Easier

MOVING FROM PRACTICE WRITING TO APPLIED WRITING

THE QUALITIES OF EFFECTIVE WRITING

ATTENDING TO YOUR READERS

ATTENDING TO YOUR SUBJECT

HOW TO MAKE YOUR WRITING EFFECTIVE

Use Effective Words Construct Effective Sentences Write Effective Paragraphs Subdivide the Text Purposefully

A NOTE ABOUT READABILITY FORMULAS

3. How to Write Efficiently: Making Writing Easier

PREPARING TO WRITE

THE PROCESS OF WRITING

Stage 1: Planning the Text
The targeting process
The discovering process
The ordering process

Stage 2: Drafting the Text Stage 3: Revising the Text Stage 4: Polishing the Text

COLLABORATIVE WRITING

4. How to Display Data in Tables and Graphs

COMMON COMPONENTS OF TABLES AND GRAPHS

CHOOSING BETWEEN TABULAR AND GRAPHICAL DISPLAYS

What Level of Detail do You Need to Show? Will Readers Want to Begin with Specific or General Information? Do You Need to Give Exact Values or Overall Impressions?

DESIGNING TABLES AND GRAPHS

General Principles for Displaying Data
Tables and How to Design Them
Parts of a table
Principles of table design
Graphs and How to Design Them
Types of graphs
Parts of a graph
Principles of graph design

SPECIFIC APPLICATIONS OF TABLES AND GRAPHS

5. How to Write an Abstract

THE PURPOSE OF ABSTRACTS

PROBLEMS OF ABSTRACTS

PUBLICATION ABSTRACTS

MEETING ABSTRACTS

STEPS IN WRITING ABSTRACTS

WAYS TO REDUCE WORD COUNTS

6. How to Write a Grant Proposal

AN OVERVIEW OF THE GRANT PROPOSAL PROCESS

Funding Agencies Grants and Contracts Offices

TYPES OF GRANT PROPOSALS

Research Grant Proposals Service Delivery Grant Proposals Grants to Individuals

DEVELOPING A GRANT PROPOSAL

Evaluating Your Idea
Writing a Concept Paper
Finding a Potential Funding Source
How to Read Guidelines and Program Announcements
Writing the Proposal
Organizing research proposals
Organizing service delivery proposals

Preparing the Budget Submitting the Proposal Characteristics of Successful and Unsuccessful Proposals

INDUSTRY-SPONSORED RESEARCH

7. How to Write an Article Reporting Original Research

GETTING ORIENTED

PREPARING THE TITLE PAGE

WRITING THE TITLE

WRITING THE ABSTRACT

KEY WORDS AND ABBREVIATIONS

WRITING THE INTRODUCTION

WRITING THE METHODS SECTION

General information on experimental methods General information on measurements General information on statistical methods Features of Basic Research Articles Features of Clinical Research Articles

WRITING THE RESULTS SECTION Supplemental Data

WRITING THE DISCUSSION SECTION

WRITING THE ACKNOWLEDGMENTS

CITING AND PREPARING THE REFERENCES

What should be referenced Where to place the reference citation How to prepare the reference list Reference Management Software

PREPARING TABLES AND FIGURES

PRESENTING EQUATIONS

Part II: How to Publish in the Health Sciences

8. Ethics in Research and Publishing

ETHICS IN CONDUCTING RESEARCH

Protecting Human Subjects Assuring Patient Privacy Protecting Animal Subjects Clinical Trial Registration Public Access to Research Results

SCIENTIFIC MISCONDUCT

Fabrication Falsification Fraud

ETHICS IN WRITING

Authorship Variations of authorship Plagiarism and copyright violations

ETHICS IN PUBLISHING

Suppression of Research Findings Duplicate Publication Divided Publication: "Salami Science" and "Meat Extenders" Confidentiality of Editors and Reviewers Conflicts of Interests Individuals with conflicting interests Companies with conflicting interests

Ethical Gray Areas: "Framing" and "Spinning"

9. How to Prepare Drawings and Photographs for Publication

PLANNING DRAWINGS AND PHOTOGRAPHS

Types and Functions of Images
Subjects and Backgrounds in Images
Contrast between Subject and Background
Image Resolution
Image Size
Image Captions

PREPARING DRAWINGS: "LINE ART"

PREPARING PHOTOGRAPHS AND "CONTINUOUS-TONE" ART SUBMITTING IMAGES FOR PUBLICATION

Submitting digital images for publication

Graphic formats

Color models

Color depth

File naming conventions

Image compression

Digital image enhancement

Submitting Physical Copies for Publication Submitting Audio and Video Clips

10. How to Document Biomedical Images for Publication

COMPONENTS OF DOCUMENTATION AND INTERPRETATION

IMAGE ENHANCEMENT AND MODIFICATION

IMPLICATIONS OF DIAGNOSTIC IMAGES

DOCUMENTING CLINICAL IMAGES

Clinical Photographs

Plane Radiographs

Fluoroscopic Images

Sonograms

CAT Scans

MRI Scans

Radionuclide Images

Electrocardiograms
Electroencephalograms

DOCUMENTING LABORATORY IMAGES

Micrographs
Gels and Blots
Genetic Sequence Information

11. How to Publish in a Scientific Journal

CHARACTERISTICS OF SCIENTIFIC JOURNALS

Business Aspects of Scientific Journals Rankings of Scientific Journals

BEGINNING THE PUBLICATION PROCESS

Choosing a Journal
Preparing Your Manuscript
What Journal Editors Want
The Importance of the Instructions for Authors

SUBMITTING YOUR MANUSCRIPT

The Cover Letter Submitting a Manuscript Online Submitting a Manuscript by Mail

THE PEER REVIEW PROCESS

THE EDITOR'S DECISION

Initial Decision and Peer Review Comments
If your manuscript is rejected
If your manuscript is accepted with revision
The Final Decision
If Your Manuscript is Accepted for Publication

THE PRODUCTION PROCESS

AFTER PUBLICATION

Requirements for Articles Reporting NIH-Funded Research Following Up: Who Cited Your Article?

A NOTE FOR NON-NATIVE ENGLISH SPEAKERS

Part III: How to Present in the Health Sciences

12. How to Prepare and Present A Scientific Poster

AN OVERVIEW OF POSTER DISPLAYS
The Call for Abstracts

Human Factors in Poster Viewing

PREPARING THE POSTER

Scheduling and Planning

Writing the Text

Preparing the Illustrations

Format and Construction

Designing the Layout

Choosing Type Fonts and Sizes

Using Color

Other Considerations

WHAT TO DO AT THE CONFERENCE

Setting up the Poster

Presenting the Poster

Removing the Poster

13. How to Prepare and Present Slide Presentations

COMMUNICATING WITH SLIDES

DESIGNING SLIDES

Presentation Software Programs Slide Formats Type Fonts and Sizes

Formatting the Text

Color

PREPARING IMAGES

VISUAL AND AUDIO EFFECTS

ORGANIZING AND WRITING THE TEXT

SOFTWARE CONSIDERATIONS

HARDWARE CONSIDERATIONS

PRESENTING YOUR SLIDES

Your Spoken Presentation

Handouts: Your Written Presentation

Other Considerations

Appendix 1. The Value of Systematic Reviews as Research Activities in Medical Education

Index

About the Author