
USING BENCHMARKING,
NEEDS ASSESSMENT,
QUALITY IMPROVEMENT,
OUTCOME MEASUREMENT,
AND LIBRARY STANDARDS

A How-To-Do-It Manual®
with CD-ROM

Rosalind Farnam Dudden

A Medical Library Association Guide

**HOW-TO-DO-IT MANUALS
FOR LIBRARIANS**

NUMBER 159

NEAL-SCHUMAN PUBLISHERS, INC.
New York London

Published by Neal-Schuman Publishers, Inc.
100 William St., Suite 2004
New York, NY 10038

Copyright © 2007 The Medical Library Association and Rosalind Farnam Dudden

“A How-To-Do-It Manual®” and “A How-To-Do-It Manual for Librarians®” are registered trademarks of Neal-Schuman Publishers, Inc.

All rights reserved. Reproduction of this book, in whole or in part, without written permission of the publisher, is prohibited.

Printed and bound in the United States of America.

The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48–1992.

Library of Congress Cataloging-in-Publication Data

Dudden, Rosalind Farnam

Using benchmarking, needs assessment, quality improvement, outcome measurement, and library standards : a how-to-do-it manual® with CD-ROM/
Rosalind Farnam Dudden.

p. cm. – (How-to-do-it manuals)

“A Medical Library Association book.”

Includes bibliographical references and index.

ISBN 978-1-55570-604-3 (alk. paper)

1. Libraries—Evaluation. 2. Medical libraries—Evaluation. I. Title.

Z678.85.D83 2007

027—dc22

2007007899

I dedicate this book to all hospital librarians.

Hospital librarians work every day

to organize and locate information to

increase the knowledge of biomedical professionals

so that they make a difference in the health of people.

Hospital librarians serve the people who serve the sick.

CONTENTS

| | |
|---|-----------|
| List of Figures | xi |
| Foreword | xv |
| Preface | xvii |
| Acknowledgments | xxi |
| Part I: Evaluating Library Quality and Performance | 1 |
| 1. Why Evaluate? | 3 |
| Types of Evaluation | 4 |
| Evaluation Stakeholders | 6 |
| Why Evaluation Matters | 7 |
| Constant Change | 9 |
| The Future of Evaluation and Assessment | 12 |
| References | 16 |
| 2. The Effective Library | 19 |
| The Culture of Assessment | 20 |
| Models of Organizational Effectiveness | 27 |
| The Effective Librarian | 31 |
| Goals of Evaluation | 36 |
| References | 36 |
| 3. Library Measures | 39 |
| Limitations of Measurement | 39 |
| Types of Measures | 41 |
| Measurement Planning | 44 |

| | |
|--|------------|
| What to Measure | 48 |
| Comparative Data Initiatives | 51 |
| References | 54 |
| Part II: Working with Evaluation Methods | 57 |
| 4. Method 1: Needs Assessment | 59 |
| What Is a Needs Assessment? | 61 |
| The 12 Steps of a Needs Assessment Project | 63 |
| Prepare for the Project: Steps 1–3 | 64 |
| Plan the Project and Conduct the Needs Assessment: Steps 4–8 | 68 |
| Analyze the Data and Recommend a Plan of Action: Steps 9–12 | 83 |
| Real-Life Evaluation: Needs Assessment | 90 |
| Workbook for Needs Assessment | 93 |
| References | 103 |
| 5. Method 2: Quality Improvement | 105 |
| What Is Quality Improvement? | 105 |
| Principles of Quality Management | 106 |
| The Librarian’s Role in Companywide Programs | 109 |
| Quality Management in the Library | 109 |
| Quality Improvement Model: FOCUS-PDCA | 110 |
| Real-Life Evaluation: FOCUS-PDCA | 116 |
| Workbook for FOCUS-PDCA | 122 |
| References | 128 |

| | |
|---|------------|
| 6. Method 3: Benchmarking | 129 |
| What Is Benchmarking? | 130 |
| Types of Benchmarking | 130 |
| Ethics and Etiquette | 134 |
| Benefits and Pitfalls | 135 |
| Performance Benchmarking | 138 |
| Real-Life Evaluation: Performance Benchmarking | 151 |
| Process Benchmarking | 152 |
| Real-Life Evaluation: Process Benchmarking | 164 |
| Workbook for Performance Benchmarking | 167 |
| Workbook for Process Benchmarking | 172 |
| References | 179 |
| 7. Method 4: Library Performance Standards | 181 |
| What Are Performance Standards? | 181 |
| Specific Standards Programs | 183 |
| Controversies | 186 |
| The MLA Standards for Hospital Libraries | 189 |
| The JCAHO Accreditation Standards | 190 |
| Workbook for Library Performance Standards | 194 |
| Workbook for Accreditation Standards | 199 |
| References | 213 |
| 8. Method 5: Outcome Measurement | 217 |
| What Is Outcome Measurement? | 218 |

| | |
|--|------------|
| Initiatives by Library Type | 221 |
| Taking Ideas from the Published Literature | 226 |
| Using Published Studies to Describe Outcomes | 230 |
| The Logic Model | 240 |
| Real-Life Evaluation: The Logic Model | 250 |
| Workbook for Describing Published Studies of Outcome Measurement | 256 |
| Workbook for Cost Outcomes | 258 |
| Workbook for the Logic Model | 260 |
| References | 268 |
| 9. Other Systems for Quality Improvement and Evaluation | 273 |
| Business Management Systems | 274 |
| Library and Information Systems | 283 |
| Information Resources for Other Evaluation Systems | 287 |
| References | 288 |
| Part III: Tools for Doing Evaluations | 291 |
| 10. Data Collection and Analysis Methods | 293 |
| Collecting Evaluation Data | 295 |
| Sampling | 309 |
| Questionnaire Design | 315 |
| Analyzing Evaluation Data | 334 |
| Mathematical Techniques | 339 |
| Information Resources for Data Analysis | 347 |
| References | 348 |

| | |
|--|------------|
| 11. Skills for Communicating in Evaluation Projects | 351 |
| What Is Good Communication? | 351 |
| Your Audience | 354 |
| Effective Writing | 355 |
| Presentations | 365 |
| Teamwork | 375 |
| Listening | 380 |
| Interviews | 383 |
| Telephone Communication | 388 |
| E-Mail Communication | 390 |
| Assertiveness | 393 |
| Negotiation and Persuasion | 395 |
| References | 398 |
| 12. Tools for Improvement and Evaluation | 401 |
| Tools for Quality Improvement Projects | 402 |
| Tools for Data Display | 420 |
| Additional Information Resources | 425 |
| Appendix: Glossary of Terms | 429 |
| Index | 449 |
| About the Author | 451 |

LIST OF FIGURES

| | | |
|------------|---|-----|
| Figure 2.1 | Models of Organizational Effectiveness and Dimensions of Library Effectiveness | 28 |
| Figure 3.1 | Linear Arrangement of Types of Measures in a Traditional Library | 41 |
| Figure 3.2 | Linear Arrangement of Types of Measures in a Present-Day Library | 43 |
| Figure 4.1 | Standard 6: From the MLA Standards for Hospital Libraries | 60 |
| Figure 4.2 | Matrix for Designing an Instructional Program Needs Assessment | 70 |
| Figure 4.3 | Choosing Your Target Population Example | 72 |
| Figure 4.4 | Sample Measures Gathered for the MLA Benchmarking Network Survey | 75 |
| Figure 4.5 | Mini Needs Assessment on New Employee Orientations | 78 |
| Figure 4.6 | Educational Programs in Hospitals with 1,500 Hospital FTEs | 80 |
| Figure 4.7 | Educational Programs in Hospitals with 2.3 Library FTEs | 81 |
| Figure 4.8 | Ease and Impact Grid | 86 |
| Figure 4.9 | Ranking of Needs by Ease and Impact | 88 |
| Figure 5.1 | Mein's Summary of Quality Management Principles | 107 |
| Figure 5.2 | Characteristics of Quality Success | 110 |
| Figure 5.3 | FOCUS-PDCA Cycle | 111 |
| Figure 5.4 | Cause and Effect Diagram | 114 |
| Figure 5.5 | Improvement Activities Chart | 119 |
| Figure 5.6 | Gantt Chart | 119 |
| Figure 5.7 | Sample from the Final Spreadsheet | 120 |
| Figure 6.1 | Value or Relevance of Benchmarking Type Combinations to a Library Operation | 132 |
| Figure 6.2 | The Benchmarking Code of Conduct | 135 |
| Figure 6.3 | Example of Use of Raw Data from the MLA Benchmarking Network Survey | 144 |
| Figure 6.4 | Presenting Survey Results | 147 |
| Figure 6.5 | Example of Data Presentation from the MLA Benchmarking Network Interactive Site | 148 |
| Figure 6.6 | Example of Using the Ratio System from the Canadian Benchmarking Tool Kit Pilot Test Results | 149 |
| Figure 6.7 | MLA Directory Search Results for Hospitals with 1,825 to 2,700 FTE Employees | 157 |
| Figure 7.1 | Standard IM.5.10 Elements of Performance for the Hospital Library from the Information Management Chapter of the JCAHO Comprehensive Accreditation Manual for Hospitals | 190 |

| | | |
|--------------|---|-----|
| Figure 7.2 | Strategies for Involvement in the Institutional JCAHO Effort | 192 |
| Figure 7.3 | JCAHO Acronyms | 200 |
| Figure 8.1 | CoR's "The Library as Place" Questions | 228 |
| Figure 8.2 | Percentage of Change in Patient Care Decisions after Using Library Services | 233 |
| Figure 8.3 | Report of Evidence of Library Outcomes from the Literature | 234 |
| Figure 8.4 | The Value Professionals Give to Information Provided by a Library Service Compared with the Cost of That Service Per Professional | 237 |
| Figure 8.5 | The Value Professionals Give to Information Provided by a Library Service, Multiplied by the Number of Services, Compared with the Total Library Budget | 239 |
| Figure 8.6 | Basic Logic Model | 241 |
| Figure 8.7 | Types of Outcomes from Different Sources | 245 |
| Figure 8.8 | Evaluation Plan Work Sheet 1 | 247 |
| Figure 8.9 | Sample SWOT Analysis | 251 |
| Figure 8.10 | Work Sheet for Steps 6 and 7 | 252 |
| Figure 8.11 | Evaluation Plan Work Sheet 2 | 255 |
| Figure 10.1 | Choosing Your Evaluation Method | 294 |
| Figure 10.2 | Survey Procedure | 296 |
| Figure 10.3 | Activities That Affect Costs | 297 |
| Figure 10.4 | Focus Group Procedure | 302 |
| Figure 10.5 | Observation Procedure | 306 |
| Figure 10.6 | Interview Procedure | 308 |
| Figure 10.7 | Example of a Sample Size Table | 311 |
| Figure 10.8 | Population and Stratified Sample of Hospital Workers/Potential Library Patrons | 314 |
| Figure 10.9 | Open-Ended Questions | 321 |
| Figure 10.10 | Two-Option Responses | 322 |
| Figure 10.11 | One-Best-Answer Questions | 322 |
| Figure 10.12 | Examples of Likert Scale Phrases | 323 |
| Figure 10.13 | Likert Scale Using a Matrix | 324 |
| Figure 10.14 | An Ordered Choice | 325 |
| Figure 10.15 | A Paired Comparison | 326 |
| Figure 10.16 | Matching | 326 |
| Figure 10.17 | Check All That Apply | 327 |
| Figure 10.18 | Multiple-Choice List | 328 |
| Figure 10.19 | Ranking | 328 |

| | |
|--|-----|
| Figure 10.20 Potential Question Problems | 332 |
| Figure 10.21 MLA Benchmarking Network Survey 2004—Expenditures— Profession Development and Travel by Number of Hospital FTEs | 341 |
| Figure 10.22 Statistics on Sociology Holdings | 345 |
| Figure 11.1 Alternative Methods of Results Presentation | 364 |
| Figure 11.2 Presentation Checklist | 370 |
| Figure 12.1 Results of a Brainstorming Session | 418 |
| Figure 12.2 SWOT Analysis Matrix | 419 |
| Figure 12.3 Second Step of SWOT Analysis | 419 |
| Figure 12.4 Tools for Quality Improvement | 425 |

FOREWORD

The Medical Library Association (MLA) has long been recognized in the library community for its exceptional professional development program, which encompasses both continuing education and credentialing. In 1999, the MLA launched a new program to define, develop, and evaluate a coordinated and comprehensive Web-based medical library benchmarking tool. This initiative was designed to provide opportunities for hospital, academic, and specialty health libraries to learn more about the benchmarking process, compare data, establish best practices, and identify and work with a benchmarking partner. Now known as the Benchmarking Network, the program began with hospital libraries and now includes libraries in research institutions, libraries serving health sciences programs, consumer health information services, veterinary libraries, and other related corporate and association libraries.

Almost 400 libraries participated in the second benchmarking survey, launched in 2004. In the increasingly competitive healthcare environment, benchmarking studies are excellent advocacy tools. Librarians have successfully used study results to increase library materials, budgets, staffing, and even space.

In 2004, Rosalind Dudden, an MLA fellow and a distinguished member of the Academy of Health Information Professionals, received the National Library of Medicine Grant for Scholarly Works in Biomedicine and Health to enable her to write a comprehensive book about evaluating library services for librarians in small-library settings. *Using Benchmarking, Needs Assessment, Quality Improvement, Outcome Measurement, and Library Standards* is an outgrowth of her work on the MLA Benchmarking Network project. She chaired the outcomes team for the first study and has been a tireless promoter of the Benchmarking Network both regionally and nationally.

Using Benchmarking, Needs Assessment, Quality Improvement, Outcome Measurement, and Library Standards provides an overview of related literature and theory. It also serves as a how-to guide for analyzing the results of measurement and evaluation techniques and for cogent communication of these results to your parent institution's administration. As such, it is an important contribution to the literature of evaluation and assessment. We encourage you to use this guide to measure, sustain, and improve the quality—and the relevance—of your library's services.

Carla J. Funk, CAE, Executive Director, Medical Library Association
Betsy L. Humphreys, AHIP, Deputy Director, National Library of Medicine

PREFACE

In library school, we learned that effective evaluation can help a library run smoothly, offer improved services and programs, and prove its worth and value to administrators. But in real life, in busy, often-understaffed work environments, assessment can become a low priority. Even doing the necessary background reading is daunting. Though there are many valuable works on the subject, they are often highly theoretical and lack practical application. As a result, librarians often come up short when searching for a book that will quickly teach them what they need to know.

I wrote *Using Benchmarking, Needs Assessment, Quality Improvement, Outcome Measurement, and Library Standards: A How-To-Do-It Manual for Librarians* as a “real-life” guide to results-oriented library evaluation. My primary aims for this book are to explain the most important and popular assessment techniques in straightforward language and to use uncomplicated step-by-step instructions to teach the reader how to perform evaluation studies with skill and competence.

This book combines my 35 years of experience, including more than 10 years of work with the MLA Benchmarking Network Initiative, with two years of intensive research, supported by a grant from the National Library of Medicine (NLM). This grant gave me the time to read widely from the extensive literature available on the subject of library evaluation. From the beginning, my intent was to create a bridge between the theory of evaluation and the practicalities of execution by writing a book that would speak to the concerns of working professionals. As I wrote, I asked myself: Could I do this project in a reasonable amount of time? Would I have the necessary skills? Could I follow the examples? I have tried to provide a set of tools that any reader, no matter how busy, can use to assess his or her services.

Librarians in any setting can learn from the explanations and use the workbooks and checklists. Because evaluation can seem even more challenging in a small library, I have made sure that the advice can be used even with the smallest staff. Librarians in single-staff settings often have the most to gain from evaluation. Changes in economic climate and technological advances have put small libraries in danger. Technical skills alone will not necessarily save a library from closure or downsizing. Effective evaluation adds another layer of defense in a librarian’s battle against downsizing and closure. If a library is threatened, showing proof of its positive impacts may be the needed ammunition to save it. My goals for *Using Benchmarking, Needs Assessment, Quality*

Improvement, Outcome Measurement, and Library Standards will have been achieved if readers can answer two vital questions about the basics of assessment and the five core methods: How do I do it? and How do I apply the results within the time constraints of a full-time job?

Using Benchmarking, Needs Assessment, Quality Improvement, Outcome Measurement, and Library Standards is divided into three parts. Part I, “Evaluating Library Quality and Performance,” prepares the reader by examining related management theory. Chapter 1, “Why Evaluate?” covers the purposes of assessment in today’s environment of social, economic, and technological change. Chapter 2, “The Effective Library,” defines the attributes of an ideal library and examines how to develop a culture of assessment. Chapter 3, “Library Measures,” contrasts new and old paradigms of information collection. It explains what one should measure and what various measurements mean.

Part II, “Working with Evaluation Methods,” details five core methods (needs assessment, quality improvement, benchmarking, library performance standards, and outcomes measurement) and their real-world applications, followed by a quick overview of other quality improvement and evaluation systems. Each chapter contains background information and a step-by-step explanation, illustrated through real-life examples. The workbook found at the end of each chapter is also reproduced on the accompanying CD-ROM.

Chapter 4, “Method 1: Needs Assessment,” discusses the assessment of customer needs, which drives evaluation projects and helps focus future goals. Chapter 5, “Method 2: Quality Improvement,” explains how to improve the processes that serve customer needs, highlighting the differences between efficiency and effectiveness. Chapter 6, “Method 3: Benchmarking,” addresses a common emphasis in industry and health care. This method can help librarians look beyond their own projects and take part in corporate initiatives. Chapter 7, “Method 4: Library Performance Standards,” is particularly important for academic and health sciences libraries. This chapter compares standards for college libraries and hospital libraries to develop a universal set of performance-based evaluation questions. Chapter 8, “Method 5: Outcome Measurement,” demonstrates three strategies for discovering and reporting outcomes: logic models, surveys, and categorization. Since outcomes vary extremely by setting, this chapter discusses the uses of this method for public, academic, special, and medical libraries. Chapter 9, “Other Systems for Quality Improvement and Evaluation,” presents an overview of 11 other industry and library methods of quality improvement measurement.

Part III, “Tools for Doing Evaluation,” will help librarians carry out any type of study and effectively communicate the results. Chapter 10, “Data Collection and Analysis Methods,” describes techniques such as surveys, focus groups, observation, interviews, sampling, and questionnaire design. Chapter 11, “Skills for Communicating in Evaluation Projects,” covers listening, interviewing, presenting, writing, PowerPoint presentations, and teamwork. Chapter 12, “Tools for Improvement and Evaluation,” focuses on ways to analyze and present data.

The accompanying CD-ROM contains a variety of resources, arranged in folders by chapter. The workbooks for the five core chapters, along with supporting materials not printed in this manual, are included for easy editing and use. The glossary and an extensive list of recommended readings with hot links can also be found on the CD-ROM.

The greater message of *Using Benchmarking, Needs Assessment, Quality Improvement, Outcome Measurement, and Library Standards* is the importance of a culture of assessment, a concept detailed in Chapter 2. Even the smallest libraries can strive to create a culture where evaluation is a valued part of everyday library operations.

ACKNOWLEDGMENTS

I would like to acknowledge the help and support of the institutions and people who assisted me in my effort to write this book. The idea for this book came in the fall of 2003. I thought that if practicing hospital librarians and other librarians in small-library settings could have a guide to use to evaluate their library service, they would have a major tool in their management arsenal to defend against downsizing and closure. But there did not seem to be such a book on the market, at least not one that could be quickly put to use by a practicing librarian. Since 1999, I have been very involved in the creation of the Medical Library Association Benchmarking Network Survey. This survey was intended as a tool for use in defending the hospital library. My idea was to write a “cookbook” to tell me in a few steps how to do the kind of evaluation that would assess the needs of my users or would communicate the value or worth of the library to my administration. I had never heard of such a book, and if I needed one, other practicing librarians might also.

So, being an industrious person, I wrote a research grant application and was awarded a two-year grant that funded 50 percent of my time. I want to acknowledge that receiving this grant (#5-G13LM008520) from the National Library of Medicine made this book possible by giving me the protected time needed to write. These grants are called the NLM Grants for Scholarly Works in Biomedicine and Health. The purpose of the research grant was to prepare a book-length manuscript (or other scholarly work) of value for U.S. health professionals. The reviewers, who felt my idea was worthy and gave me the good score, offered me hope that other people thought the book would be of use to librarians in small-library settings.

I wish to acknowledge the support of my employer, National Jewish Medical and Research Center, located in Denver, Colorado. Not only was I encouraged to seek the grant, but National Jewish also has a system in place that supported me totally in administering the grant and allowing me to hire staff to replace my time spent on writing the book. My thanks go to the dedicated support staff at National Jewish who helped me.

My professional life has been shaped by the associations I have belonged to since 1971, the Medical Library Association (MLA) and the Colorado Council of Medical Librarians (CCML). The members, staff, programs, sections, chapters, and committees of these associations have supported and mentored me in my career all these years, and this book could not have been created without them. I particularly wish to acknowledge the 40 or so hospi-

Reference: NLM Grants for Scholarly Works in Biomedicine and Health www.nlm.nih.gov/ep/GrantPubs.html

The National Library of Medicine (NLM) awards small grants for the preparation of book-length manuscripts and other scholarly works of value to U.S. health and biomedical professionals. Scholars in biomedical fields face competing demands for their time, including requirements for clinical care services, grant-related research, and administrative duties. Scholarly work draws upon original sources that may reside in archives, databases, libraries, or human experts around the world, in many different languages and formats. The work of scholarship—discovery, thoughtful analysis, synthesis, and lucid presentation of findings from such materials—requires protected time and support for incidental costs, including materials, staff assistance, and travel. The NLM Grant for Scholarly Works in Biomedicine and Health is intended to help defray such expenses.

tal and other librarians who worked on the MLA's benchmarking committees and continue to do so to bring this important program to the members. The program would not have been so successful had it not been for the over 500 MLA members who entered their data in the two surveys. My hat is off to all of you! Using the benchmarking results to demonstrate evaluation methods has been a major benefit to writing this book.

I must acknowledge those who helped me through this four-year process. First is the staff at the Tucker Medical Library at National Jewish, who kept the place running while I wrote. Shandra Prozko and Barb Griss kept the reference services going, while Carol Miller, Sean Crow, and LaVonne Griffie worked on the daily activities of the library. Without their dedicated and competent support, I could not have gotten this done.

I am also grateful to those who helped me with the technicalities of the book. Adelaide Fletcher, Reference Librarian at the Denver Medical Library, rescued me at the end of the process with the superb editing skills of an English major and the fresh eyes of a new graduate. Jeff Magouirk, staff member at the Biostatistics Department at National Jewish, helped at the beginning of the project with a discussion of statistical concepts and support for what I wrote about them. Thanks also to Sean Crow, staff member at the Tucker Medical Library, who helped with the glossary and benchmarking results. Other editing help in a pinch came from my friend Margi Holcomb; my daughter, Laura Dudden; and my partner, Jim Mills.

A special thanks goes to Margaret Bandy, Medical Librarian at Exempla Saint Joseph Hospital in Denver, whose unwavering support of the idea kept me going through times of doubt.

Any author needs a good meal and the support of his or her family, and I am no exception. Through all my doubts and time constraints, my partner, Jim Mills, and daughter, Laura Dudden, have supported me without question. Thanks for the meals and encouraging remarks!

Last but not least, I would like to acknowledge my late parents, George Bronson and Nancy Farnam, for their belief in quality education and service to the community, which shaped my life and made it possible for me to write this book.