Asset Management in Radiology

ahra
Table of Contents

Acknowledgments ........................................................................................................ iv
Introduction .................................................................................................................. v
Editors ...................................................................................................................... vii
Contributors .......................................................................................................... ix
Reviewers .............................................................................................................. xiii

Section 1: Capital Equipment Planning
1. Develop the Plan ........................................................................................................ 3
2. Involve Stakeholders ............................................................................................... 27
3. Evaluate Equipment and Modalities ........................................................................ 39

Section 2: Building and Construction Planning
4. Determine Need and Plan Space .............................................................................. 73
5. Evaluate New Construction Issues ......................................................................... 83
6. Evaluate Renovation Issues .................................................................................... 97

Section 3: Project Implementation
7. Coordinate Project .................................................................................................... 111
8. Select Vendor .......................................................................................................... 131
9. Conduct Applications Training .............................................................................. 155

Section 4: Maintenance
10. Service Contracts .................................................................................................. 163
11. Assure Quality in Imaging .................................................................................... 183

Section 5: Supplies
12. Manage Inventory .................................................................................................. 211

Index ....................................................................................................................... 231
Acknowledgments

Asset Management in Radiology, the fourth book in the AHRA professional development series, came to fruition because of the hard work and relentless pursuit of a quality educational product by the many involved. We would like to show our appreciation to the following for their participation in the project.

Bayer HealthCare Pharmaceuticals continues to receive our gratitude and sincere appreciation for the generous grant which has made this development series possible. The contributions of knowledge and expertise from the many authors and peer reviewers are much appreciated. The book would not have been possible without the input of each. The writing and editing skills contributed by Lynne Dodson brought every chapter of the project together as one final manuscript. The AHRA staff, under the direction of Debra L. Murphy, Publications Director, managed every aspect of the book from start to finish. From developing the outline and content of the material to finalizing the cover for print, Deb and her staff were there to make sure the project made it to the next step.

There is not enough room on this page to thank all of the people involved in the completion of this project because there are many that worked behind the scenes to bring it to fruition. So, to everyone involved, we sincerely appreciate your efforts.

Denise A. Merlino, MBA, CNMT, FSNMTS, CPC
Stephen R. Gaines, MS, RT(R)(CT), CRA, FACHE
Steven W. Gerber, MBA, RT(R)

Bayer HealthCare Pharmaceuticals
Introduction

Since the inception of the Certified Radiology Administrator (CRA) credential in 2002, AHRA: The Association for Medical Imaging Management, the preeminent organization for leaders in medical imaging management, has strived to develop educational materials specific to the field of imaging administration. Hence, the impetus for the professional development series of books. Along with its predecessors, *Financial Management in Radiology*, *Communication & Information Management in Radiology*, and *Human Resource Management in Radiology*, *Asset Management in Radiology* continues the tradition of discussing material in depth to aid the continuing education of the imaging administrator.

The authors of this book represent a cross section of today's imaging profession. Academic medical centers, community and rural hospitals, freestanding imaging centers, and private enterprise are represented among the contributors. The range of experience of the authors allows a broad perspective of ideas and expertise for the book material.

*Asset Management in Radiology* consists of 5 sections in which the building blocks and strategies of asset management are discussed:

Section 1, Capital Equipment Planning, reviews the initial steps of determining equipment needs, short and long term planning, identifying the key decision makers, and common evaluation and selection processes.

Section 2, Building and Construction Planning, discusses the physical space needs of equipment. Planning and determining space needs and new construction versus renovated existing space are reviewed.

Section 3, Project Implementation, provides a review of expected phases of a capital equipment project and how to coordinate them, selecting a vendor based on preferred specifications, and outlining a contract for staff training once the project is complete.

Section 4, Maintenance, reviews issues regarding the service of the equipment after installation and acceptance. Comparisons of contracts offered by the original equipment manufacturer and internal engineering are discussed.
Section 5, Supplies, discusses processes of maintaining an adequate stock of supply inventory and methods of monitoring the associated expenses. State-of-the-art electronic inventory systems are also reviewed.

Assets in the healthcare environment defined as building infrastructure, capital equipment, and supplies represent a significant expense to any organization; second only to labor costs. Managing these assets and their associated expenses requires expertise, know-how, and an acquired wisdom. *Asset Management in Radiology* is designed to provide the imaging administrator with the foundational knowledge in order to manage these assets on a day-to-day and annual basis. This book is certain to become an important tool referenced time and again by the imaging administrator.

Denise A. Merlino, MBA, CNMT, FSNMTS, CPC
Stephen R. Gaines, MS, RT(R)(CT), CRA, FACHE
Steven W. Gerber, MBA, RT(R)
Editors

Denise A. Merlino, MBA, CNMT, FSNMTS, CPC
President
Merlino Healthcare Consulting
Stoneham, Massachusetts

Denise Merlino is a certified professional coder and nuclear medicine technologist who has worked in healthcare for more than 25 years. She is the founder of a thriving healthcare policy consulting firm. She was the administrative director of diagnostic imaging at Lahey Clinic Medical Center and the associate director for payer relations and payer marketing at BMS Medical Imaging. She is an active member of the AHRA and the Society of Nuclear Medicine (SNM) and has held various leadership roles in the SNM technologist section. Her consulting company provides services for professional societies, nuclear pharmacies, physician offices, and hospitals across the country. She is an expert on nuclear medicine coding and is a frequent presenter at local and national coding seminars.

Stephen R. Gaines, MS, RT(R)(CT), CRA, FACHE
District Administrative Director
Harris County Hospital District
Houston, Texas

Stephen Gaines is a Fellow and Board Certified Healthcare Executive (FACHE) and a Certified Radiology Administrator (CRA). He has held radiology leadership roles at Vanderbilt University Medical Center in Nashville, Tennessee and the University of Texas Medical Branch in Galveston, Texas. He is currently serving as the system-wide administrator at the fourth largest public health system in the nation, Harris County Hospital District in Houston, Texas. He has served as vice-chair of the Radiology Administration Certification Commission (RACC), lectured at the AHRA annual meeting, and authored chapters in Financial Management in Radiology and Human Resource Management in Radiology. He holds master’s degrees in business and healthcare administration.
**Steven W. Gerber, MBA, RT(R)**

Chief Operating Officer  
Excel Imaging  
St. Joseph, Minnesota  
Steve Gerber has been the chief operating officer and principle of Excel Imaging since 2001. Prior to starting Excel Imaging, Mr. Gerber was the vice president of operations for the Center for Diagnostic Imaging in the Pacific Northwest. He has over 30 years of experience in the field of medical imaging with the first 15 years working for several hospital systems and the last 15 years in outpatient imaging. Mr. Gerber served 2 terms on the AHRA Editorial Review Board and also served on the initial committee for writing the CRA exam. He holds a master’s degree in business administration.

**Editor/Writer**  
**J. Lynne Dodson**  
Creative Lines  
Stratford, Connecticut  
J. Lynne Dodson, a medical writer and editor since 1971, specializes in practice management, healthcare administration, patient education, and medical history. She is the author/co-author of 7 health-related books for general audiences, most recently, *Hot Times*, ghostwritten for bestselling nutritionist Ann Louise Gittleman, PhD. Ms. Dodson is also the author of 5 photographic histories of medicine and a contributing author to the *Journal of Oncology Practice*. She has twice won writing excellence awards from the American Medical Writers Association. Through her Stratford, Connecticut based business, Creative Lines, she also provides public relations services to nonprofit organizations.
Contributors

Ron Barak, RT(R), BHS, MBA, CRA
Regional Radiology Manager
Broward General Medical Center
Fort Lauderdale, Florida
Ron Barak is currently the regional radiology manager at Broward General Medical Center (BGMC) in Fort Lauderdale, Florida. BGMC is a 700+ bed level 1 trauma center and community teaching hospital. He has been a radiology administrator for over 13 years. He received his bachelor’s in healthcare administration and master’s in business administration from Florida Atlantic University in Boca Raton, Florida and was among the charter group to take and pass the CRA examination in 2002. He has been an active member of AHRA since 2001 and is currently serving on the Rapid Review Committee and the Webinar Committee. He is also a past member of the Annual Meeting Design Team and has served on the Product Development Committee.

Luann J. Culbreth, M Ed, MBA, RT(R)(MR)(QM), CRA, FSMRT
Executive Director, Medical Imaging
Saint Thomas Health Services
Nashville, Tennessee
Luann Culbreth joined Saint Thomas Health Services in February 2009. Previously, Ms. Culbreth was with the Dallas, Texas based Baylor Health Care System for over 16 years, most recently as the director of imaging services at Baylor Regional Medical Center in Plano, Texas. Prior to joining Baylor, she was with Emory Healthcare in Atlanta, Georgia for 11 years. Throughout these 28 years, Ms. Culbreth has worked in various aspects of imaging and healthcare, including patient care, teaching, research, and management. She has been an active member of AHRA; has served on the Radiology Administration Certification Commission (RACC), Annual Meeting Design Teams, the Board of Directors, and has been a speaker at various AHRA meetings. Ms. Culbreth is also published in other imaging publications, including Merrill’s Atlas.

Roberta M. Edge, MHA, CRA, FAHRA
Director of Imaging Services
Sutter Gould Medical Foundation
Modesto, California
Roberta “Robbie” Edge is the director of imaging services for Sutter Gould Medical Foundation in Modesto, California. She has been working in imaging for 33 years,
21 of those in various management and leadership roles. Ms. Edge has been actively
involved with AHRA since 1994, volunteering in many capacities such as leading
the Annual Meeting Design Team, serving on the Editorial Review Board, serving
as education director on the Board of Directors, serving as president in 2004–2005,
writing, and speaking. She was the Gold Awardee in 2006 and achieved Fellow sta-
tus in 2000. Ms. Edge was among the inaugural CRAs and holds a master’s degree
in health administration from Chapman University, a baccalaureate degree in gen-
eral psychology from California State University, Northridge, and a radiology cer-
tificate from Lankenau Hospital in Philadelphia, Pennsylvania.

Belinda Escamilla, EdD, RT(R)(CT)
Director of Radiology
The University of Texas Medical Branch
Galveston, Texas
Belinda Escamilla has been active in radiologic health sciences for 30 years. Her first
10 years in the field were as a radiographer, CT and special procedure technologist.
The following 10 years were dedicated to the education of radiologic technologists.
She progressed through the educational arena as a clinical coordinator, faculty
member, and director for radiography, CT, MRI, and special procedures programs.
She completed her tenure in education as the director of the division of radiologic
health sciences at the School of Allied Health Sciences at the University of Texas
Medical Branch at Galveston, Texas. Ms. Escamilla holds a bachelor’s degree in
health education, a master’s degree in higher level education, and a doctoral degree
in education administration and leadership. She has taught and presented at the
community, state, national, and international level. For the past 10 years, she has
held administrative leadership positions and is currently the director of radiology at
the University of Texas Medical Branch at Galveston, Texas.

Fred Gaschen, MBA
Executive Vice President
Radiological Associates of Sacramento
Sacramento, California
Fred Gaschen has held increasing levels of authority within the healthcare industry
over the past 30 years, with particular emphasis in the diagnostic imaging and ther-
apy business. Currently, he is the executive vice president of Radiological Associates
of Sacramento, a position he has held for the past 11 years. Mr. Gaschen is a fre-
quently lecturer and writer on radiology contracting, strategic planning, marketing,
utilization, and business operations, having presented at both national and region-
al conferences of the AHA, RSNA, ACR, CRS, ARRS, RBMA, AHRA, MGMA,
and NMA. He has been published in Diagnostic Imaging, RSNA News, Decisions
in Imaging Economics, RBMA Bulletin, and Financial Management in Radiology. He
was selected as the “Radiology Executive of the Year” in 2003 by Auntminnie.com, the "Radiology Administrator of the Year" in 2006 by Advance Magazine, and received AHRA’s “GE Award for Excellence” in 2007.

Tobias Gilk, M Arch
President & MRI Safety Director
Mednovus, Inc.
Overland Park, Kansas
Tobias Gilk received his master’s degree in architecture and spent more than 10 years directly involved in the planning, design, and construction of medical and research imaging facilities. He serves on the American College of Radiology’s MR Safety Committee and is a sought after speaker and consultant on the future of medical imaging and imaging design. He currently serves as the president of Mednovus, an MRI safety products and services company specializing in ferromagnetic detection systems.

Robert Junk, AIA, AHRA
Principal
MRI Planning
Kansas City, Missouri
Robert Junk founded MRI Planning (a division of Junk Architects, PC) in 2001, a design and consulting practice specializing in medical imaging based in Kansas City, Missouri. MRI Planning serves healthcare clients and design professionals across the country through design collaboration, peer reviews, and expert witness services. He has served as Specialty Imaging Consultant for the drafting of the new Department of Veterans Affairs National Design Guidelines for Radiology, is the editor of the MRI Planning Newsletter, and has written numerous articles published in radiology and design trade publications and Web sites. He has been a frequent speaker at national meetings of professional imaging organizations including AHRA, MRMS, AHA, ASRT, SMRT, and National Symposium of Healthcare Design.

Timothy Ludwig, MHA, RT(R)(CT), CRA
Vice President
Craven Regional Medical Center
New Bern, North Carolina
Tim Ludwig is vice president of ancillary services at Craven Regional Medical Center (CRMC) in New Bern, North Carolina, a 350 bed community hospital. Prior to becoming vice president, he was the director of imaging services at CRMC. He is a graduate of Carolinas College of Health Sciences, School of Radiologic Technology, where he received the 2007 Distinguished Alumnus award. He
received his bachelor of science degree in healthcare management from Pfeiffer University and his master’s of healthcare administration from the University of North Carolina at Chapel Hill. Mr. Ludwig has served on numerous committees with the AHRA, spoke at an annual meeting, and has written for the AHRA’s Link newsletter. He has also written for Advance magazine. Ludwig is an adjunct professor at Mount Olive College in the healthcare management program.

Peter C. McCormack, MHSA, RT(R), CRA
Director of Radiology
Scott & White Healthcare
Temple, Texas

Peter C. McCormack is the Director of Radiology at Scott & White, the primary teaching and research hospital for Texas A&M Health Science Center College of Medicine. Mr. McCormack obtained a bachelor of science degree in radiologic sciences from the University of Central Florida, Orlando and a master of science degree in health services administration at Nova Southeastern University in Ft. Lauderdale, Florida and is a CRA. He has over 25 years experience in imaging management in both group practice and hospital settings. Mr. McCormack is an active member of the AHRA and the Association of Academic Administrators in Radiology.

Kimlyn N. (Sorrell) Queen, MSM, CRA RT (R) CT MR
Director of Imaging Services
Marion General Hospital
Marion, Ohio

Kimlyn N. (Sorrell) Queen is the director of imaging services at Marion General Hospital in Marion, Ohio. She received her master’s of science management in finance and bachelors in business administration from Mount Vernon Nazarene University and she is a Certified Radiology Administrator (CRA). She is also currently serving a 3 year term as a Radiology Administrator Certification Commissioner (RACC). Ms. Queen received the distinguished honor of Manager of the Year for 2006 by Marion General Hospital. She has 19 years experience in radiology, 9 of which have been in radiology management.
Reviewers

Tonya Bell Brightmon
Mgr. Diagnostic Imaging—Interventional Radiology
MD Anderson Cancer Center
Houston, Texas

Rodney Dalseg, CRA
Imaging Director
Island Hospital
Anacortes, Washington

Brenda DeBastiani, CRA, RT(R)
Radiology Services Supervisor
Monongalia General Hospital
Morgantown, West Virginia

Diane Dionne, MBA
Director of Radiology
Southern NH Medical Center
Nashua, New Hampshire

Paul Dubiel, MS, HCA
Director of Imaging
Seton Family of Hospitals
Austin, Texas

Dan Goldblatt
Radiology Manager
Blue Mountain Hospital District
John Day, Oregon

Corinne Jackson, CRA, MHA
Diagnostic Imaging Director
Marin General Hospital
Greenbrae, California

Robin Johnson
Radiology Department Manager
Barrett Hospital
Dillon, Montana

Kyle Kellum
Radiology Manager
Syringa General Hospital
Grangeville, Idaho

Sylvia Lesic, CRA, MLLS
Director, Radiology
The Western Pennsylvania Hospital
Pittsburgh, Pennsylvania

Diana Mathai
Quality Assurance Coordinator
Harris County Hospital District
Missouri City, Texas

Peggy Pust, CRA
Director of Imaging Services
Monongalia General Hospital
Morgantown, West Virginia
Terry Stavang, MBA, CRA, RT(R)
Assistant Director, Diagnostic Imaging
Santa Clara Valley Medical Center
San Jose, California

Jason Theadore, MHA, CRA, RT(R)
Director of Diagnostic and Therapeutic Services
OhioHealth
Columbus, Ohio

Sherri Vasko-Steinbeck, CRA
Director of Diagnostic Imaging
Longmont United Hospital
Thornton, Colorado