When patients require medical care in an imaging department, they expect the technologists, nurses, physicians, and medical assistants to be fully trained and competent to provide proper healthcare. However, competency requirements do not stop with frontline imaging medical professionals and physicians. Along with a technical knowledge of image acquisition, the core competencies of imaging administrators cover a number of different skills and knowledge areas unrelated to that of a technologist.

In order to support the front line staff and create a high quality, successful imaging department, the administrative team must be made up of a variety of competent leaders, including the imaging director/administrator, PACS/RIS administrator, and radiation safety officer.

The core competencies of an imaging director include demonstrated expertise in human resources, asset management, fiscal management, communication, and operations.

PACS/RIS administrators must possess skill sets that bridge the domains of a radiologic technologist, information systems analyst, and imaging administrator—competencies can be placed into three categories: behavioral, business, and technical.

Oversight of the radiation safety program is provided by the RSO, who must meet certain qualifications related to education, training, and experience required by the Nuclear Regulatory Commission and other state licensing and regulatory agencies where applicable.

Imaging Administrators

There are standard competencies that all department administrators and healthcare executives should be able to demonstrate. These competencies include:

• Relationship management: Successfully maintain positive working relationships with radiologists, referring physicians, associates, vendors, facility administrators, organizational executives, and community members.
• Team building and teamwork: Effective selection, evaluation, and development of direct reports to maintain high performing teams.
• Vision: Share a compelling, persuasive, and optimistic view of the organization's future and inspire the realization of bold results.
• Communication skills: Demonstrate verbal, non-verbal and written communication skills with diverse audiences; convey high levels of self-confidence, transparency, sensitivity, and authenticity. Ability to focus communications on the needs of the listener and the other party’s point of view.
• Demonstrating an executive presence: Cultivate the skills, talents, and aligned values of others. Take steps to formally
support direct and indirect reports in expanding their knowledge and experiences. Encourage and reward others’ successes.

- Financial acumen: Utilize financial processes/tools to ensure fiscally responsible use of resources.
- Values: Create a balance between achieving desired, measurable outcomes and demonstrating compassion, excellence, stewardship, and integrity.

Breaking down the core competencies of a healthcare executive, imaging administrator responsibilities include, but are not limited to:

- Planning, organizing and directing the workflow within the imaging department
- The delivery of quality patient care
- Budgetary oversight
- Customer service
- Meeting all regulatory and accrediting agency requirements
- Creating and maintaining departmental/organizational policies and procedures
- Quality assurance (QA) and performance improvement
- Health Insurance Portability and Accountability Act (HIPAA) compliance
- Strategic planning and project management
- Medical records functions
- Billing and coding oversight
- Staff and physician satisfaction
- Recruitment and retention

These responsibilities fall under five management areas, or domains:

- Human resources
- Assets
- Fiscal
- Operations
- Communication and information

The Certified Radiology Administrator (CRA) designation defines one as a leader and an expert in imaging administration. The CRA credential is an imaging management specific credential that validates the competencies required for imaging administrators. The following summarizes the core competencies of a CRA.

**Human Resource Management**

1. Employ the necessary level of staff by developing an effective recruitment and staffing program to support the mission of the organization.
2. Implement a retention program using proactive interviews and surveys to understand employee needs.
3. Conduct on-going staff performance evaluations using established appraisal tools to assess competence and formulate professional and personal development plans.
4. Establish skill development processes to expand employee, trainee, and/or student technical competence using various methods to fulfill employee potential and organizational needs.
5. Implement a leadership development program using various methods to enhance employee administrative skills and develop a succession plan.
6. Recognize employees whose actions enhance the organization by creating an employee recognition program to improve employee morale and job satisfaction.

**Asset Resource Management**

1. Acquire necessary capital equipment by developing business plans to address forecasted growth of current and/or new demands.
2. Select capital equipment by conducting an evaluation in collaboration with organization stakeholders (physicians, finance, materials management, etc) to provide optimal technology.
3. Manage projects effectively by empowering appropriate employee teams to implement projects that support strategic plans.
4. Establish an ongoing equipment maintenance program using both internal and/or external sources to optimize functional status and maximize uptime.
5. Manage equipment and space acquisition, construction/renovation, site preparation, and installation projects by coordinating with internal and external parties to complete the projects within timelines and budgets.
6. Manage supply levels by establishing a materials management program to ensure supply availability and control cost.

**Fiscal Management**

1. Develop an operating budget in collaboration with the organization using established accounting principles to maximize revenue and minimize expense.
2. Monitor monthly revenue and expense activities by analyzing data to meet budget targets, justify variances, and make revisions as necessary.
3. Forecast future demand for services through market research to maintain and grow market position.
4. Develop a strategic plan using market research outcomes to capitalize on opportunities.
5. Create business plans by assessing and analyzing information to address the organization’s needs and fulfill the strategic objectives.
6. Ensure appropriate reimbursement through pre-certification/preauthorization (when required) and management of accurate charge coding to comply with applicable federal, state, and local regulations.
7. Ensure appropriate patient charges by developing processes to monitor and audit billing reports to reconcile billing errors.

**Operations Management**

1. Assess customer satisfaction with imaging services using appropriate tools (eg, patient and physician satisfaction surveys, focus groups, interviews) to enhance quality and serve the interests of stakeholders.
2. Respond to survey results using continuous quality improvement methods to enhance customer satisfaction and meet organizational objectives.
3. Provide for the quality and appropriateness of patient care by coordinating the development and implementation of medical protocols to adhere to accepted standards of care.
4. Coordinate patient management (eg, appointment times, resource availability, transportation, etc) by identifying and supplying necessary resources to provide optimal imaging services.
5. Establish industry partnership by building alliances to leverage negotiating power, maximize resources, and develop new opportunities.
6. Differentiate imaging services from those of competitors by developing marketing and public relations plans to maintain existing and attract new business.
7. Write policies and procedures following federal, state, and other regulatory and accrediting guidelines to comply with applicable standards and protect patients and other stakeholders.
8. Enforce policies and procedures by monitoring compliance and providing feedback to uphold applicable standards.
9. Develop a quality management program using process improvement tools to further enhance and complement the strategic goals of the organization.

**Communication and Information Management**

1. Foster interdisciplinary communication and collaboration by eliciting the exchange of information to meet or exceed customer service expectations and achieve organizational objectives.
2. Develop action plans on a regular basis by identifying areas that are compliant/non-compliant with predetermined measures (eg, employee retention, budget) to achieve organizational objectives.
3. Manage business and patient information (eg, images, demographics, reports) by putting electronic and/or manual systems in place to ensure its integrity, confidentiality, and security.
4. Identify opportunities to enhance involvement in the community by participating in volunteer activities to enhance public health awareness and promote the organization’s presence in the community.

**PACS/RIS Administrator**

Over the last decade, filmless imaging and electronic health records have become an integral part of the medical imaging arena. At the center of the filmless imaging environment is PACS. The move towards electronic health records brought the introduction of the radiology information system (RIS). Not only did the introduction of PACS and RIS eliminate the need for film, film processors, chemicals, paper medical records, and procedure schedules; it introduced medical imaging to the patient care advantages that could be gained through the use of information technology and information systems (ie, teleradiology, electronic health records). As the film and paper began to disappear, so did the darkroom techs and file room techs; these roles have been replaced by PACS/RIS administrators.

PACS/RIS administrators must possess skill sets that bridge the domains of a radiologic technologist, information systems analyst, and imaging administrator. According to experts, the PACS/RIS administrator competencies can be placed into three categories: behavioral, business, and technical. These categories are similar to those of the imaging administrator's human resources, operations, and communication and information management competencies. A strong clinical knowledge of medical imaging and medical terminologies is also an essential job function of the PACS/RIS administrator.

Core administrative (business) competencies for this role include:

- Relationship management: Successfully maintain positive working relationships with radiologists, referring physicians, associates (technical staff), vendors, facility administrators, organizational executives, and community members.
- Team building and teamwork: Effectively select, evaluate, and development of direct reports to maintain high performing teams.
- Vision: Share a compelling, persuasive, and optimistic view of the organization’s future and inspire the realization of bold results.
- Communication skills: Effectively demonstrate verbal, non-verbal, and written communication skills with diverse audiences; convey high levels of self-confidence, transparency, sensitivity, and authenticity. Ability to focus communications on the needs of the listener and the other party’s point of view.
- Financial acumen: Effectively utilize financial processes/tools to ensure fiscally responsible use of resources.

Core technical competencies for this role include:

- Workflow analysis
- Imaging protocols
- System management
- Physician and associate training
- Display protocol design, maintenance, and trouble shooting

---

**Competencies in Imaging Administration**

- Foster interdisciplinary communication and collaboration by eliciting the exchange of information to meet or exceed customer service expectations and achieve organizational objectives.
- Develop action plans on a regular basis by identifying areas that are compliant/non-compliant with predetermined measures (eg, employee retention, budget) to achieve organizational objectives.
- Manage business and patient information (eg, images, demographics, reports) by putting electronic and/or manual systems in place to ensure its integrity, confidentiality, and security.
- Identify opportunities to enhance involvement in the community by participating in volunteer activities to enhance public health awareness and promote the organization’s presence in the community.
• Health Level 7 (HL7) interface/ connectivity trouble shooting
• Digital Imaging and Communications in Medicine (DICOM) connectivity of imaging modalities
• Reading room design
• Reading station calibration
• Teleradiology protocols
• System capacity
• Disaster recovery
• System security—login and password maintenance
• Speech recognition
• Oversight of system upgrades
• Vendor selection
• RIS or hospital information system (HIS)—PACS dictation and report integration
• Meaningful Use
• Procedural ordering
• Exam scheduling
• Patient registration
• HIPAA policies and procedures

Core behavioral competencies for the role:

• Strategic planning and project management
• Customer relations management
• Influence skills
• Managing technologist/radiologist interactions
• Managing radiologist/physicist interactions
• Gaining physician acceptance
• Initial user troubleshooting
• Ability to support change management
• Evaluation of future growth potential
• Vendor management and relations

Ensuring efficient, high quality patient care 24/7/365 requires imaging departments to provide timely and accurate images and reports via reliable and sustainable PACS and RIS systems. The core competencies identified in this section are non-negotiable skill sets for effective PACS/RIS administrators. For information related to PACS administrator certifications refer to www.pacsadmin.org or www.adii.org.

Radiation Safety Officer

A mandatory component of any imaging department providing diagnostic testing and treatment with ionizing radiation and radiopharmaceuticals is to have a radiation safety program and radiation safety committee (RSC). Oversight of the radiation safety program is provided by the Radiation Safety Officer (RSO). In order for an individual to be appointed to the position of RSO, he/she must meet certain qualifications related to education, training, and experience required by the Nuclear Regulatory Commission (NRC) and other state licensing and regulatory agencies where applicable.

According to the NRC, appointed RSOs must have the necessary education, training, and experience. They need to be certified by a specialty board whose certification process has been recognized by the NRC or an Agreement State. To have its certification process recognized, a specialty board shall require all candidates for certification to:

• Hold a bachelor’s or graduate degree from an accredited college or university in physical science or engineering or biological science with a minimum of 20 college credits in physical science;
• Have 5 or more years of professional experience in health physics (graduate training may be substituted for no more than 2 years of the required experience) including at least 3 years in applied health physics; and
• Pass an examination administered by diplomats of the specialty board, which evaluates knowledge and competence in radiation physics and instrumentation, radiation protection, mathematics pertaining to the use and measurement of radioactivity, radiation biology, and radiation dosimetry; or
• Hold a master’s or doctor’s degree in physics, medical physics, other physical science, engineering, or applied mathematics from an accredited college or university;
• Have 2 years of full time practical training and/or supervised experience in medical physics
• Pass an examination, administered by diplomats of the specialty board, that assesses knowledge and competence in clinical diagnostic radiological or nuclear medicine physics and in radiation safety; or has completed a structured educational program consisting of both 200 hours of classroom and laboratory training and one year of full time radiation safety experience under the supervision of the individual identified as the RSO on a Commission or Agreement State license or permit issued by a Commission master material licensee that authorizes similar type(s) of use(s) of by product material.

For a complete list of the necessary education, training, and experience for an RSO as outlined by the NRC, please visit www.nrc.gov.

In many institutions, the RSO is a nuclear medicine physician, radiologist or medical physicist. In some instances the RSO might be a nuclear cardiologist, radiation oncologist, nuclear pharmacist or nuclear medicine technologist.

Aside from the RSO’s required membership and attendance at the RSC meetings, the RSO must agree, in writing, to be responsible for implementing the

RSOs need to be certified by a specialty board whose certification process has been recognized by the NRC or an Agreement State.
radiation safety program and performing or delegating other duties such as:

• Oversight of the radiation safety and ALARA program
• Oversight of appropriate record keeping
• Quarterly review and reporting of occupational doses
• Required annual reporting of “Current Occupational External Radiation Exposures” on form NRC-5
• Establishing investigational levels for personnel exposure, area surveys—dose rates and contamination
• Quarterly review and reporting of dose rate and contamination survey results
• Reviewing incidents involving ionizing radiation
• Reporting incidents as required by regulation—doses, radiation levels, or concentrations of radioactive materials exceeding a constraint or limit
• Coordination of the radiation safety activities of the members of the radiation safety team
• Maintaining positive relationships with members of the imaging department, medical staff, and RSC members
• Effectively communicating radiation safety information and education
• Interacting with regulatory agencies
• Identifying radiation safety problems
• Initiating, recommending, or providing corrective actions for radiation safety problems
• Verifying implementation of corrective actions
• Stopping unsafe operations

To provide a fully comprehensive radiation safety program, the RSO may work in conjunction with regulatory experts and other radiation safety experts, such as: nuclear medicine physicists, diagnostic imaging physicists, radiation oncology physicists, individuals responsible for radiation protection (IRRP), and certified radiation experts (CRE). For more information about RSO requirements and training refer to www.nrc.gov (NRC;10 CFR 35.50 Training for Radiation Safety Officer) and www.moellerinc.com (section: Radiological & Nuclear Services—Radiation Safety).

Conclusion

When it comes to providing safe, high quality diagnostic imaging services and top notch customer service, the saying “it takes a village” is entirely accurate. In order to support the front line staff and create a high quality, successful imaging department, the administrative team must be made up of a variety of competent leaders. It is the responsibility of these leaders to provide the front line staff with the proper tools for the job and the proper training/education required to meet patient care needs, provide quality imaging, and exceptional customer service. They must hire the right people, create a safe environment for patients and staff, and partner with associates, patients, physicians, and customers in the care delivery process. For additional information, refer to AHRA’s comprehensive professional development book series, which includes Communication & Information Management in Radiology, Asset Management in Radiology, Operations Management in Radiology, Human Resource Management in Radiology, and Financial Management in Radiology.

References

1OhioHealth Leadership Competency Model. 2012.
Competencies in Imaging Administration

Home-Study Test

1.0 Category A credit • Expiration date 10-31-2016

Carefully read the following multiple choice questions and take the post-test at AHRA’s Online Institute (www.ahraonline.org/onlineinstitute)

QUESTIONS

Instructions: Choose the answer that is most correct.

1. Along with a technical knowledge of image acquisition, the core competencies of imaging administrators cover:
   a. A number of different skills
   b. Knowledge areas only related to that of a technologist
   c. A number of different skills and knowledge areas related to that of a technologist
   d. A number of different skills and knowledge areas unrelated to that of a technologist

2. Which of the following is a competency in “Team building and teamwork?”
   a. Successfully maintain positive working relationships with radiologists
   b. Effective selection, evaluation, and development of direct reports to maintain high performing teams
   c. Share a compelling, persuasive, and optimistic view of the organization’s future
   d. Demonstrate verbal, non-verbal and written communication skills with diverse audiences

3. The responsibilities of imaging administrators fall under:
   a. 2 management areas
   b. 5 management areas
   c. 9 management areas
   d. 14 management areas

4. The credential CRA stands for:
   a. Certified Radiology Administrator
   b. Competent Radiography Administration
   c. College of Radiology Administrators
   d. Capable Radiography Administration

5. Which of the following is a competency for the asset resource management section?
   a. Implementing a leadership development program
   b. Recognizing employees whose actions enhance the organization
   c. Acquiring necessary capital equipment by developing business plans to address forecasted growth of current and/or new demands
   d. Developing an operating budget in collaboration with the organization
6. Which of the following is NOT a competency for the operations management section?
   a. Respond to survey results using continuous quality improvement methods to enhance customer satisfaction and meet organizational objectives
   b. Differentiate imaging services from those of competitors by developing marketing and public relations plans to maintain existing and attract new business
   c. Enforce policies and procedures by monitoring compliance and providing feedback to uphold applicable standards
   d. Create business plans by assessing and analyzing information to address the organization's needs and fulfill the strategic objectives

7. Communication and information management involves developing action plans on a regular basis by identifying areas that are compliant/non-compliant with predetermined measures to achieve organizational objectives.
   a. True
   b. False

8. Filmless imaging and electronic health records have become an integral part of the medical imaging arena:
   a. In the past year
   b. During the past 5 years
   c. Over the last decade
   d. Throughout the last 25 years

9. The move towards electronic health records brought the introduction of the:
   a. Radiology Information System (RIS)
   b. Electronic Radiology Structure (ERS)
   c. Quickly Processed Records (QPR)
   d. Health System Efficiency (HSE)

10. According to the experts, the PACS/RIS administrator competencies can be placed into how many categories?
    a. 13
    b. 7
    c. 4
    d. 3

11. Core administrative (business) competencies for the PACS/RIS administrator role include:
    a. Workflow analysis
    b. Imaging protocols
    c. Financial acumen
    d. System management

12. Which of the following is NOT a core behavioral competency for the PACS/RIS administrator role?
    a. Customer relations management
    b. Exam scheduling
    c. Influence skills
    d. Managing technologist/radiologist interactions

13. The core competencies identified are a non-negotiable skill set for effective PACS/RIS administrators.
    a. True
    b. False

14. In order for an individual to be appointed to the position of radiation safety officer (RSO), he/she must meet certain qualifications related to:
    a. Education
    b. Training
    c. Experience
    d. All of the above

15. To have its process recognized, a specialty board shall require all candidates for certification to:
    a. Hold an associate's degree from an accredited college/university in physical science, or engineering, or biological science
    b. Have 15 or more years of professional experience in health physics
    c. Pass an examination administered by diplomats of the specialty board
    d. Have 10 years of full time practical training and/or supervised experience in medical physics

16. What minimum number of college credits in physical science does a candidate for certification need to have?
    a. 5
    b. 10
    c. 15
    d. 20

17. In many institutions, the RSO is a:
    a. Nuclear medicine physician
    b. Radiologist
    c. Medical physicist
    d. Any of the above

18. The RSO is required to:
    a. Attend RSC meetings
    b. Maintain a RSC membership
    c. Agree, in writing, to be responsible for implementing the radiation safety program
    d. All of the above

19. The acronym “IRRP” means:
    a. Individual Responsible for Radiation Protection
    b. Integrating Responsive Radiation Protection
    c. Involvement of Radiologist in Radiation Protection
    d. Incorporating Reliable Radiation Protection

20. To support the front line staff and create a high quality successful imaging department, the administrative leaders must provide:
    a. Proper tools and training/education to front line staff
    b. Quality imaging
    c. Exceptional customer service
    d. All of the above