

**RESEARCH ARTICLE****Vice Chairs for Research: What They Do & Challenges They Face****Authors**

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**Abstract**

The Vice Chair for Research can be a critical member of a radiology department's leadership team and help guide its research program. There is, however, little information available on what a Vice Chair for Research is expected to do (i.e., a job description) or what types of challenges they are facing in today's research environment. A survey of radiology Vice Chairs for Research was done to ascertain the characteristics and responsibilities of a typical radiology vice chair for research, and their commonly encountered challenges. The responsibilities were consolidated into 15 major categories with a variety of individual tasks in each one. There were 18 themes identified in terms of challenges, with the top three reported as funding to support research, engaging clinical faculty in collaborative research, and research time for radiologists. These survey results could help radiology departments define the role of their Vice Chair for Research or for those departments without one to formulate a job description for recruiting, and to consider ways to help Vice Chairs meet challenges in order to enhance department research efforts.

**Keywords:** vice chairs, job description, research, challenges

## 1 Introduction

Research in radiology departments, and in healthcare entities generally, is facing a number of significant challenges, not only for clinician scientists but for basic researchers as well.<sup>1-3</sup> The challenges range from funding (even with recent increases in federal funding levels over the past few years) to finding the right people to hire at the right time to fulfill a department's research mission. There are, however, numerous opportunities as well<sup>1</sup>, and recently there have been a variety of efforts to enhance and promote research efforts and involvement in radiology.<sup>4-6</sup> The Radiological Society of North America's (RSNA) Vice Chairs of Research Group has members from over 50 large and small academic radiology departments in the United States, Canada and Europe. The group convenes bi-annually, typically at the RSNA and AUR (Association of University Radiologists) annual meetings. Membership is voluntary and does not include all Vice Chairs for Research.

Having a Vice Chair for Research in radiology departments is one apparent strategy for increasing research opportunities, infrastructure, and productivity, but there has been very little, if any, research on defining what a Vice Chair for Research does or could do, and what challenges they face in today's research environment. In a previous paper by this group<sup>7</sup>, results from a 57-item survey sent to Radiology Vice Chairs for Research characterized department demographics (e.g., faculty size, funding submission and

award rates), faculty development (e.g., mentorship programs, start-up packages, promotion criteria), availability of core services/facilities and research financial structures.

This paper reports on a survey assessing the characteristics and responsibilities of a "typical" radiology Vice Chair for Research, and their commonly encountered challenges. The goal is help radiology departments define the role of their Vice Chair for Research or for those departments without one to formulate a job description for recruiting, and to consider ways to help their vice chair for research meet challenges in order to enhance department research efforts.

## 2 Methods

### 2.1 Job Description

Using the RSNA's list of Department Chairs and Vice Chairs for Research (which includes those who do not regularly participate in the group that meets at the RSNA Annual meeting), a request was sent for copies of any job descriptions for a Radiology Vice Chair for Research.

### 2.2 Challenges

A short survey was developed in Qualtrics (Qualtrics, Provo, UT), containing 12 questions about their position and institution (Table 1) plus a final question asking them to list up to 10 challenges currently facing a radiology Vice Chair for Research. The survey was distributed via the RSNA's list of Vice Chairs for Research (n = 97). This was not considered research and thus did not require IRB approval.

**Table 1.** Questions in the survey.

Survey Questions	Survey Responses
What is your institution?	Free text
What is your degree?	MD, PhD, MD-PhD, Other
Have you ever received an NIH, DoD or other federal grant?	Yes, No
How long have you been a Vice Chair of Research at your current institution?	< 1 year, 1-5 years, 6-10 years, > 10 years
Have you been Vice Chair for Research at a previous institution?	Yes, No
How many primarily (> 50% effort) clinical faculty are in your department?	Free text
How many primarily research faculty (> 50% effort) are in your department?	Free text
List up to 10 challenges you are currently facing as a Vice Chair of Research	Free text

### 3 Results

The survey had 42 respondents (43% response rate). In terms of academic degree, 43% had an MD, 31% PhD, 21% MD-PhD and 5% other (MD, MSc; MBBS). Eighty-three percent had at some point in their career received an NIH, DoD or other federal grant. The number of years being a Vice Chair for Research at their current institution varied, with 22% < 1 year, 37% 1-5, 17% 6-10 and 24% > 10 years. Only 10% had been a Vice Chair at another institution, with 29% < 1 year, 57% 1-5, and 14% 6-10. The average number of primary clinical faculty at each institution (> 50% effort) was 75.5 (sd = 153.03; range = 10-1000; median 42); and the average number of primary research faculty (> 50% effort) was 18 (sd = 36.30; range = 0-202; median 5).

#### 3.1 Job Description

The call for job descriptions resulted in 10 formal job descriptions provided, with most departments having little or nothing in terms of a formal job description (JD) to provide. Overall, it was noted the JD's seemed to

confer little actual authority, and few described (or indicated) control over research budgets (internal funds to support research are generally controlled by the research or department business office). Most of the JD's describe dedicated and/or protected time and some degree of support (e.g., staff, financial) for their administrative and research functions. We consolidated the reported job responsibilities into 15 major categories with a variety of individual tasks in each one as described below.

#### 1. Supervise Department Faculty and Staff

- Manage the research staff in the department, including clinical coordinators, research analysts, and research administrative assistants
- Supervise support staff and research functions that bring high quality proposals, reports, deliverables, presentations, and other milestones to fruition

- Coordinate programmatic research faculty leaders' activity.
  - Oversee the department's labs, research staff, and grants administrator/grants coordinator
  - Provide biostatistics and research coordinator help
  - Review research activity of faculty and make recommendations regarding promotions
  - Provide input to annual evaluations of the research faculty (PhDs) in the department
  - Manage research administrative staff and departmental research resource personnel for IRB (Institutional Review Board), IACUC (Institutional Animal Care and Use Committee) and Radiation Safety submissions
  - Ensure that departmental leadership and all members of the department are aware of and support the research efforts in the department
- 2. Oversee Research Projects**
- Develop and manage research project activities, helping to assure that project goals are achieved within timeline and budget
  - Serve as a key leadership resource on prioritization, direction, and strategic growth of new and existing research projects and initiatives and represent the department on appropriate school of medicine and university committees.
  - Have an open-door policy to discuss research
  - Meet and discuss research projects with radiology residents
- Develop and promote projects among the faculty and between departments
  - Provide assistance, support, brainstorming to help develop research projects (e.g. to meet with radiology residents, staff, other clinicians)
  - Maintain inventory of research projects in the department
  - Foster research among the Radiology faculty members; help facilitate research among young faculty members, such as through intramural funding sources
  - Maintain inventory of ongoing research, sponsored & non-sponsored; mentor trainees and participate in development of research projects as required by ACGME programs; oversee and coordinate all Departmental research-related activities, ongoing & planned
- 3. Manage Department Budget/Allocate Funds**
- Manage departmental research funds and allocate funds as appropriate
  - Facilitate the diversification of research funding opportunities including industry collaborations, and team science and program/center-type grants based in the department and in collaboration with interdepartmental colleagues
  - Oversee mission-based budgeting for research operations and new programs jointly with the clinical administrator
  - Calculate bonus for researchers in the department (depending on department's incentive model and whether it applies to research and/or clinical faculty)
  - Help secure funding and review draft grants for faculty, particularly those on a tenure track

- Work with the Chair and lead administrator to develop compensation plans
- Manage departmental research seed funding

#### **4. Committee/Other Group Participation**

- Chair department research committee, compile minutes, report research updates at regular intervals in radiology faculty meetings
- Attend “research vice chairs” meetings in the School of Medicine
- Sit on the departmental leadership committee
- Serve on Department Academic Committee: represent Department on research-related committees/projects/functions on Chair’s request; serve as principal research liaison with other Departments/Centers; participate in local/regional/national societies and organizations that focus on research

#### **5. General Department Management/ Guidance**

- Articulate a vision for the future of imaging research within the department and institution
- Increase the breadth, depth, and impact of radiology research
- Facilitate development of a nationally prominent collaborative research effort
- Encourage research in the department via monthly radiology research interest meetings (multispecialty with MD’s, PhD’s, research coordinators, etc.)
- Review research-related issues (research agreements etc.); mediate research-

related issues as needed; inform the Chair and appropriate Vice Chair of problems and possible solutions regarding research issues; maintain a level of knowledge of the research resources at institution that are available to researchers both within the department and within the medical center

- Serve as key resource for all faculty and trainee research; meet regularly with Department Chair; provide written reports to Department Chair at least annually; contribute to development of a research curriculum for residents (how to write a paper, present, understanding the IRB, etc.)
- Oversee research compliance in coordination with the appropriate school of medicine and university bodies

#### **6. Run Courses/Events**

- Serve as Course Director for Research component of resident & fellow conference curricula
- In collaboration with Residency Program Director, select recipient of annual resident research award at graduation
- Organize and co-lead regular faculty, fellow & chief resident education & research retreats
- Coordinate research grand rounds and seminar series
- Contribute to and/or manage grant-writing courses

#### **7. Assist/Critique Work of Junior Faculty**

- For submitted grant applications, read NIH application critiques and interpret study section comments for junior faculty

- Read and mark-up grant applications (prior to submission) for junior faculty
- Read, critique, and mark-up papers (prior to submission) for junior faculty
- Assist junior faculty in understanding and following academic promotion guidelines
- Review and approve IRB applications from department faculty; review of department-level documents as needed

### **8. Extramural Funding**

- Serve in a leadership role for extramural funding (e.g., Principal Investigator on a T32 or S10 grant)
- Encourage and support extramural funding efforts for faculty members
- Seek out intramural & extramural funding sources for independent department projects
- Seek out and coordinate funding sources for interdepartmental/multidisciplinary projects
- Seek out funding sources for biostatistician salary support; research coordinator partial salary support; regulatory (e.g., IRB) salary support

### **9. Facilitate Mentoring**

- Help link medical students interested in research with radiologists for research projects
- Oversee research and research mentorship programs, including but not limited to strategic reorganization of the department's research divisions
- Ensure mentorship and training for faculty in radiology research
- Identify mentoring possibilities for young researchers; be a liaison between

the faculty and residents interested in radiology research

### **10. Recruitment**

- Advise on recruitment of research faculty including clinician-investigators
- Assist with recruitment and mentoring of faculty and staff to support the research mission

### **11. Public Relations**

- Provide radiology research accomplishments to medical center newsletters (e.g., the cancer center)
- Serve as the “face” of research at administrative functions in the school of medicine
- Publicly recognize those faculty members performing research

### **12. Facilitate Networking**

- Link Radiologists with statistical consultants for papers
- Coordinate networking of researchers, within department & throughout institution

### **13. Faculty Development**

- Promote faculty development relevant to research
- Actively participate in and promote the teaching of students and faculty

### **14. Own Individual Research**

- Actively engage in own individual and/or collaborative research. This could be basic and/or clinical research of candidate's own interest.

**15. Other**

- Review statistical analysis plans utilizing industry standard health economic and statistical techniques, including development of study protocols, reports, manuscripts, and presentations of study findings
- Generate value messages for incorporation into project deliverables, publications and presentations
- Review conduct of systematic literature reviews, statistical analyses, development of model structure, program models and sensitivity analyses and validation exercises
- Serve as a contact point for research-related aspects of clinical trials
- Write annual research report for department
- Evaluate proposals for imaging in clinical trials from investigators outside radiology, and triage to the most appropriate radiologist for further evaluation where appropriate
- Ensure or optimize the eventual publication of projects presented at meetings
- Coordinate administration and oversight of the preclinical imaging core facility
- Guide Institutional Review Board (IRB) submissions/process
- Provide guidance and oversight of Research Coordinators' daily work and priority-setting

**3.2 Challenges**

The top 10 challenges are summarized in Table 2 with the number of respondents noting each one provided.

**Table 2.** Top 10 challenges noted by Vice Chairs for Research.

<b>Challenge</b>	<b>Number Vice Chairs Noting</b>
Obtaining research funding	31
Engaging clinical faculty in collaborative research	26
Research time for Radiologists	17
Research culture	16
Chair/School of Medicine/Institute support	12
Support staff	11
IRB. IACUC, grant preparation, etc.	10
Incentives for research	10
Equipment/infrastructure	10
Mentors/mentorship & training	9
Space	8
Radiology mission/fees seen as service to other departments	7
Recruitment, retention & competition	7
Vice Chair position lacks support and/or authority	5
Preclinical/translational/cross-department efforts	4
Getting graduate students	3
Industry/philanthropy support/relations	3

#### 4 Discussion

There are two things that are clear from the summary of Vice Chair for Research job descriptions. First, there is no single description that encompasses all of the possible functions of this position that a given department might require or desire. In fact, the diversity of departments and the nature, size, maturity and research portfolio of the department likely contributes to this diversity of roles<sup>7</sup> and the variety in the backgrounds of current Vice Chairs. The second is that a Vice Chair for Research needs to possess a wide variety of skills ranging not just from a basic knowledge of research, publishing and grantsmanship, but to management (resources and time), personnel and financial acumen.

It is informative to see the wide variety of job functions Vice Chairs listed as falling under their purview. The majority of themes were expected, such as those related to supervision, research activities, funding and strategic development or hiring. Others, however, were rather unexpected such as those in the running or organizing of courses and events, public relations and conducting statistical analyses for other faculty. Not unexpectedly, a recent survey of Radiology Vice Chairs for Education also revealed wide variations in their job descriptions and responsibilities.<sup>8</sup> What are the practical implications of these findings? One is that a Vice Chair for Research needs to have a variety of skills and talents that to some degree have very little to do with their experience and expertise in conducting research. They also need to be prepared to deal with a wide variety of people – leaders, faculty, staff, students, marketing, business

and likely even patients. Thus, when looking to hire or promote someone to a Vice Chair for Research position, it would appear useful not only to assess their research publication and funding record, but to delve deeper into their interpersonal, organizational and financial skills. Vice Chairs for Research do not need to be jacks-of-all-trades, but do need to be flexible, proactive, adaptive, willing to learn, and to some degree outgoing and personable.

It is not surprising that the challenges facing the Vice Chairs for Research center on a few common themes that reflect those expressed in an earlier survey of Vice Chairs for Research.<sup>7</sup> The top 5 challenges according to the current survey were obtaining research funding, engaging clinical faculty in collaborative research, developing a culture of research and having chair/School of Medicine/institution support. It is not surprising that faculty have also noted the same challenges. For example, in one study the Association of University Radiologists' Radiology Research Alliance conducted a survey of smaller radiology departments on the topic of research challenges and opportunities.<sup>1</sup> They found that while faculty at these institutions were interested in doing research and perceived it as important to the success of the field, barriers were identified such as lack of resources and time.

It was interesting to note that there were no challenges or job responsibilities provided by respondents related to collaboration with other department leaders (e.g., Executive Committee, Chair's Cabinet). It seems highly probable that the majority of Vice Chairs for Research are part of these teams so it is not



clear why no one mentioned it. As the practice of radiology becomes more complicated and departments struggle to maintain our triple mission (research, education, patient care), being part of a leadership team is clearly critical.

If having Vice Chairs is a valuable resource for Department Chairs<sup>9</sup>, in particular Vice Chairs for Research, what can be done to better support them? One suggestion from our survey was creating financial support from technical fees (e.g., by charging for tasks carried out by medical physicists, for example, when they participate in clinical trials) or from an endowment fund for which contributions could be solicited from graduates, retired faculty and even grateful patients. The latter requires marketing to highlight unique imaging tools and involving patient imaging stories (interventional, mammography, pediatrics are good sources to target).

A “standard” job description or template, much like the one developed for Vice Chairs of Education<sup>8</sup>, could also help in terms of creating a better understanding of expectations and responsibilities for those interested in pursuing this type of leadership position. It obviously would not cover every possible task or responsibility a Vice Chair for Research might encounter or be expected to take on, but it would provide a foundation or framework of core common expectations. The development of such a job description is a topic of interest for the Vice Chairs group for 2020.

A limitation of the survey is that we did not try to simultaneously collect data on department demographics (e.g., size, funding

rates, publication rates, amount of research conducted, type of research (e.g., translational, basic) conducted) and assess job challenges as a function of these important variables. Our earlier study<sup>7</sup> did characterize a wide variety of these types of variables using a 57-item survey, but it took some people close to an hour to complete as it required collecting department data. We chose not to replicate those efforts in the present survey in order to keep it concise yet informative and not overburden respondents with excessive time to complete. We do feel that although some challenges faced by Vice Chairs for Research are clearly a function of local circumstances, the majority of the key ones identified are common to most, if not, all departments.

Another limitation, as with any survey (especially anonymous ones where follow-up for clarification is not possible), is that respondents might misinterpret a question. For example, in our survey 1 respondent indicated that their department has approximately 1000 primarily clinical faculty and another indicated 202 research faculty. These numbers might be correct, but the research faculty, for example, might include graduate students and research staff. Reporting the median helps account for potential outliers.

In addition to addressing these issues, future work could survey Vice Chairs of Research from other specialties with different types and sizes of research portfolios to identify common roles, challenges and responsibilities as well as differences. Such data could provide important lessons learned or tips for optimizing radiology’s research

organization and management. It would also be interesting to carry out a similar survey and job description for non-US countries. Academic departments differ in structure and administrative aspects not only between different universities in a given country but also between different countries. To date there seems to be very little formal research or comparative descriptions of differences in administrative structures between clinical academic departments around the world. We

were also unable to find any published job descriptions of vice chairs for research (or any other types of vice chairs) outside of the US. There is much that could be learned from such a comparison, but it would take a carefully constructed survey with input from faculty in radiology from other countries with comparable responsibilities (and possibly other titles).

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