# Research Development and Its Workforce: An Evidence-Based Compendium for Higher Education and Other Environments

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**Abstract**: Research development (RD) is a relatively new area of professional practice in and outside higher education for which "the full extent of practitioner purposes and practices is yet to be delineated" (Preuss, Eck, Fechner & Walker, 2018, p. 2). To address this gap, data was compiled from 442 position descriptions, two surveys that asked about the background, experience, employers, roles, responsibilities, and salaries of RD professionals, and the membership roll of the National Organization of Research Development Professionals (NORDP). Quantitative and qualitative analyses were completed as well as comparisons of findings from each of the sources. The result was an overview of the field and the persons who work in it. The average research development professional was a middle-aged, White, female with six or less years of experience in RD who held an advanced degree, who worked full time in a position she had occupied for four years or less and for an entity where she had been employed for longer than four years. More than 75% of the RD professionals were women but minorities were underrepresented as in many other areas of higher education and in STEM-related fields. More than half of the informants were recruited to, grew into, or had positions created for them in RD by their employer rather than being recruited from outside the organization. Approximately 72% of research development professionals in the United States worked at public colleges or universities in 2017, with the same percent working for doctorate-granting institutions. Their employers were located in 49 US states and one territory but there was a group of 14 states in which two-thirds of all known RD professionals could be found. There was also a tendency for large state and private universities that have more selective admission policies and a strong and extended focus on conducting research to employ groups of five or more RD professionals. RD professionals hold positions with a wide range of responsibilities, 62 were demonstrated to be part of the field. The data substantiated that these can be grouped in four categories already used by practitioners, strategic research advancement, communicating about research and research priorities, enhancing collaboration, and support of proposal production. Evidence of employment tiers and development of areas of specialization was found with statistically significant differences in responsibilities demonstrated between persons with the title Director and Proposal Developer/Grant Writer. RD offices tended to be small, most commonly staffed by one to two persons. Centralized offices were the type most frequently reported, 37.6% of respondents, but seven other organizing patterns existed. RD offices with five or more employees occurred at larger, flagship institutions that have had an historic focus on externally-funded research yet, over half of research development offices were reported to have existed for six years or less. Compensation reported for research development professionals was comparable to that noted by McDonald and Sorensen (2015) for Assistant and Associate Professors. Combined, the data facilitated formulation of the first detailed definition of research development that is fully evidence-based including identifying RD's contribution to the mission of higher education and an operational description of how RD is practiced.

**Keywords:** Research development professionals, Employment qualifications, Job responsibilities, Salary scale

## Introduction

"Universities, colleges, research centers, and institutes are central players in the production and dissemination of actionable ideas, and, more importantly, in the networks of coordinated actions that result in the creation and

mobilization of knowledge….[and] research development has taken on an increasingly important role in the strategic deployment and coordination of university and other networked resources in the service of knowledge creation and mobilization" (Stone, 2014, para. 3). Kuo (2017) also notes the expanding role of practices labeled as research development in higher education settings. Yet, research development as an area of professional practice is not broadly understood, the ability to define it based on empirical evidence is limited, and "the full extent of practitioner purposes and practices is yet to be delineated" (Preuss, Eck, Fechner & Walker, 2018. p. 2). To address this gap, data from quantitative and qualitative review of position descriptions, survey research regarding the background, experience, employers, roles, responsibilities, and salaries of research development professionals, and information from the National Organization of Research Development Professionals (NORDP) membership roll is described below.

### Purpose and Significance

The material that follows summarizes findings from data gathered by several groups for different purposes. Each source represents the only known or best developed material of its kind in respect to research development (RD) in at least one topic area. This material was compiled to demonstrate the "type, scope, scale…and organizational aspects of research development" (Stone, 2015, para. 5) and to provide

> a standardized basis from which to create benchmarks, develop quality improvement guidance…, devise assessment mechanisms, and establish best or promising practices…[to] help us better understand what kinds of individuals, with what kinds of training, skills, and abilities, are best suited for various roles within research development, as well as what their professional trajectories are like….[to] improve our capacity to recruit, retain, and provide succession planning and longer-term career paths for individuals (Stone, 2015, para. 5)

who are in or entering the field.

The questions the data from the four sources can address are:
- What is research development?
- What do people in research development do?
- What education, experience, knowledge, aptitudes, and skills are needed to be a research development professional?
- How do the answers to these questions vary by time, location, and institution?

Since there is very little research-based information about research development and professionals who work in the field, the material that follows provides initial and, in some cases, incomplete information. Yet, the compendium produces the most extensive description available of RD and the persons who work in the field.

### Sources

Material gathered from four distinct data sets is discussed in this work. A brief description of each follows arranged by the year in which the information was gathered.

The first source of information was a set of 442 research development position announcements gathered by Dr. Holly Falk-Krzesinski that was made available to the authors. This collection included positions descriptions created between 2006 and 2016. The process by which this library of position descriptions came into being was described in Preuss, Eck, Fechner, and Walker (2018). The content of the job descriptions/announcements was used to complete quantitative and qualitative analysis of research development positions and responsibilities. Results from Preuss, Eck, Fechner, and Walker's (2018) investigation have been combined with findings from the other sources to construct this presentation.

In 2015, NORDP conducted a survey of its membership seeking to understand compensation patterns in the field of research development (Kiser, Soelberg, Mulfinger & McGuigan, 2015). The 570 NORDP members were asked via e-mail to complete a survey which sought demographic, employment, and salary information. Two-hundred and twelve individuals responded to the online survey which is "a robust 37% response rate" (Kiser, Soelberg, Mulfinger & McGuigan, 2015, p. 1). The committee members who administered the survey noted that "based on a comparison of the geographic distribution, as well as of the highest degree attained, of the respondent group versus an anonymized, full NORDP membership list, the respondents appear to represent a reasonable proxy for the entire membership" (Kiser, Soelberg, Mulfinger & McGuigan, 2015, p. 1). Findings from this report, even though it is five years old, will be cited below as it is the only extant record of compensation for research development professionals. Thankfully, another salary survey was completed

recently by the organization and results from it may be made public in the future. The work of Kiser, Soelberg, Mulfinger, and McGuigan (2015) will be referred to as the 2015 salary survey, the 2015 survey, or the salary survey in the discussion of findings.

The third data set came from a survey that all NORDP members were invited to complete in the early summer of 2017. That survey was also administered online, using the Qualtrics platform, and responses were solicited by e-mail using contact information provided to NORDP by its members. The response rate for this survey was 25.4% as 181 of the 712 persons who were NORDP members in the spring of 2017 responded. This data set will be referred to as the 2017 research survey, the 2017 survey, or just the research survey in the discussion of findings.

The fourth data set consists of information submitted to NORDP by members during membership application or renewal processes. This material, in de-identified form, was provided to the research team based on the 2017 membership rolls. Several topics included in the membership data set allowed confirmation of the representative nature of the 2017 research survey sample, like gender and highest degree attained, which was the reason for requesting the membership data. However, the membership materials gathered other information applicable to an understanding of the field of research development and the persons who self-identify as RD professionals. Since this information was gathered by the organization without a research purpose, a ruling from an Institutional Review Board was sought regarding ability to use the data for this publication. Approval of that purpose was received.


## Literature

As was noted in Preuss, Eck, Fechner, and Walker (2018), literature applicable to research development is spread across multiple academic fields, is published in a wide variety of journals, and is infrequently identified as a publication specific to research development. This makes the material difficult to find. Works referencing research development are known to exist in

> journals devoted to business, economics, nursing, medicine, research administration, project management, research policy, physical and social science, engineering, evaluation, higher education, and information technology. In addition, several are white papers, special reports, and chapters in larger volumes or books (Preuss, Eck, Fechner & Walker 2018, p. 4).

To address this challenge, the National Organization for Research Development created a Mendeley repository of material applicable to the field in the spring of 2018. NORDP members were encouraged to submit materials that would be uploaded to the Mendeley page. As of June in 2018, 48 publications had been collected on Mendeley, 38 of which were published during or after 2008. Unfortunately, at the time this article was written, the Mendeley page had been bot-hacked and included hundreds of articles having no relationship to research development so the number of articles that have been recognized as addressing research development by professionals working in the field and placed in this repository after 2018 is unknown.

The materials present on the Mendeley webpage in 2018, and that the authors found while completing searches and interacting with their peers in research development, do not include a strong emphasis on defining and describing the field. They focus on informing others that the field exists and pursuing questions about specific applications within research development.

> The general topics addressed…[are] collaboration and collaborative processes (including inter-institutional collaboration), faculty roles and responsibilities, faculty tenure and promotion, grant-making organizations and funding processes, interdisciplinary research, internal funding and grant review, project management, proposal development, research development, research support, and team science (Preuss, Eck, Fechner & Walker 2018, p. 4).

To that list, one must add defining research development but only one source in the Mendeley repository had that focus prior to the publication of Preuss, Eck, Fechner, and Walker (2018) and that source was a Wikipedia page.

A search of the literature in the spring of 2020 using the phrase research development returned over 1.5 million full text listings and more than 548,000 peer-reviewed journal articles. Even when limited to the publications from January 1st of 2019 to March of 2020, there were over 109,000 full text listings and more than 48,000 peer-reviewed publications. This was the case as research development is used in titles of articles like "Research Development on K-Ion Batteries" (Hosaka, Kubota, Hameed & Komaba, 2020), sentences or clauses like "impressive research development in dental traumatology" (Andersson, 2012), and as the two nouns in the

commonly employed phrase research and development (Choi, 2020; Tzabbar & Baburaj, 2019). Employing the label "research developer" as the search term did not narrow results. The combination occurs in a wide variety of ways and as a label for someone who develops presentations of information they have gathered (i.e., compiling research to create a presentation or report) (Hoffman, 2007) often referred to in American parlance as a research analyst. In the over 500 articles found in this search, none referred to a person as a research developer in a way compatible with definitions of the field found in Levin (2011), Budescu and Walker (2012), and Kuo (2016) or on the NORDP website (NORDP, n.d., para. 1). Use of research development professional as a search term returned hundreds of results in which the three words occur in varying combinations. When limited to an exact match, there was no change and none of the listings reviewed addressed the topic in the way it defined in this article. Thus, information in the literature about research development, as defined by NORDP, the authors listed above and in Preuss, Eck, Fechner and Walker (2018), remains nearly undetectable. The distributed, diverse, and limited nature of the literature produced about research development as a professional specialization, the associated dearth of research-based definitions and of discussions of the general characteristics in the field, and the absence of information about roles, responsibilities, and compensation makes the material presented herein unique and significant.

## Methodology

As has been noted, material from four sources will be discussed. These are a findings from a survey of the NORDP membership completed by Kiser, Soelberg, Mulfinger, and McGuigan in 2015, findings from the review of position announcements described in Preuss, Eck, Fechner, and Walker (2018), the findings from analysis of de-identified membership data provided to the research team by the NORDP administrator, and findings from a survey conducted with the NORDP membership in spring of 2017. The methodologies employed for each are described briefly below followed by information about how comparisons between the four sources were completed.

As describe in Kiser, Soelberg, Mulfinger and McGuigan (2015), a survey was developed by the "Member Services subcommittee on Member Metrics" (p.1). The 2015 version was based on a similar survey completed in 2012. "The survey instrument and data management process received IRB approval through Boise State University" (p.1). A link to the 2015 survey, hosted on Qualtrics, was distributed to all 570 NORDP members and 212 individuals provided responses. The information sought by the committee had a limited scope as the intention was to understand salaries offered in the field of research development. They requested information in the following areas: (1) the zip code of the informant's employer, (2) the respondent's salary, (3) the type of organization at which the respondent was employed, (4) the employer's geographic location, (5) the organization's annual research expenditure, (6) the informant's professional title, (7) the number of persons employed in the research development office at the organization, and (8) the informant's gender, race, ethnicity, and level of education. The committee reported on each of these topics. Analysis of the data was limited to descriptive statistics with the exception of normalizing salaries using a county cost-of-living index. To the best of the authors' knowledge, this brief report is both the most recent and broadest consideration of compensation in the field of research development.

In late 2016 and the winter of 2017, Preuss, Eck, Fechner, and Walker completed a review of 442 RD position descriptions. Quantitative and qualitative analysis, as described in the 2018 publication, was completed. In that process, information relevant to the current consideration, like proportions of persons holding various titles and the years of experience in research development desired for applicants, was developed. The data analysis from that investigation was revisited to provide material relevant to this discussion.

The review of research development job descriptions was planned as the first step in a multi-stage process. The second step was a survey of the NORDP membership intended to verify and expand upon quantitative and qualitative findings from the position announcements. That survey was developed by the authors of this article. The questions developed were based on findings from the review of position announcements, several of the definitions of research development noted above (Levin, 2011; NORDP, n.d.), and the extensive list of responsibilities research development professionals have and activities they complete found on the Wikipedia page describing research development (n.d.). The final source was utilized as it represented the most extensive and precise listing available. The authors, who all had more than a decade of RD experience, discussed the activities listed and found them to be accurate descriptions of tasks and functions people who classified themselves as research development professionals were known to undertake. The researchers decided that using this list, including maintaining the division into four primary topic areas, would be a means of measuring the accuracy of the catalog, understanding the degree to which each idea was represented in the field, and, due to

the extensive nature of the list, establishing which concepts had the strongest emphasis in RD practice. The survey was written over a period two months and administered via Qualtrics. The survey, associated informed consent form, pattern for soliciting participation, and data gathering process was submitted for and received Institutional Review Board (IRB) approval. The survey was made available to the NORDP membership during and after the 2017 annual conference. Of the 712 active members of NORDP, 181 responded. Responses were downloaded in an Excel spreadsheet. Quantitative data was subjected to descriptive and inferential statistical analysis while qualitative data underwent open and axial coding (Kolb, 2012).

As a means of verifying findings from the review of position announcements and the survey of the NORDP members completed by the authors, NORDP membership data was requested. The NORDP administrator provided the research team de-identified data submitted by NORDP members during their application for or renewal of membership. So that this material represented the same time period as the survey, the 2017 membership information was requested. Since this information had not been collected for a research purpose, a description of it, how it was obtained, and its intended use was submitted for and received IRB approval. Like with the survey data, descriptive and inferential statistics were employed with quantitative elements and open and axial coding with the qualitative elements.

A comparison of the results of analyses of the four sources of data was completed based on topics addressed. A listing of topics in each of the sources was produced and a cross-walk created in tabular form. The material contained in each source for each topic was compared based on the data gathered, the specific focus/foci present, and whether there were concepts addressed that were not part of the other data sets. In nearly every case, the four sources included overlapping and compatible information. The exceptions were topics addressed in only one of the sources or specific data points within a topic area that were not replicated in another source.

## Research Limitations and Delimitations

The absence of a well-defined and robust body of literature ascribed to research development professionals is a limitation of the study as it prevents a comprehensive review of publications to demonstrate common understandings and practices. To this one must add the absence of survey, interview, and focus group data in the literature describing research development and the persons active in the field. Further, the authors were unable to find widely distributed data about the salaries in the field. The report produced by Kiser, Soelberg, Mulfinger, and McGuigan (2015) was only distributed to the NORDP membership. A second limitation is most research develop professionals have self-defined. "Asking a self-defined population to explain and justify their identity can result in circular argumentation" (Preuss, Eck, Fechner & Walker, 2018, p. 3). To address this and the first limitation, multiple sources were used allowing verification between sources, across data types, and over a two year period.

The survey results discussed are self-reported data. Data of this type includes measuring perception and opinion except when requests are made regarding counts of personnel, salary figures, and other easily quantified information. However, it is possible that respondents will inflate or deflate responses based on a number of factors like assumptions about the researchers' intentions, concerns regarding other purposes to which the information might be applied, an interest in shielding some forms of information, etc. These inclinations cannot be prevented and often cannot be measured. There is also the possibility of bias. Respondents may have strong biases toward or against a topic or pattern. Biases of this type may have impacted the strength or variety of responses received.

The persons gathering the information discussed introduced delimitations by choosing topics to query. Yet, delimitation caused by restricting the focus or extent of a question set is an inherent part of human subject research. The authors of this article may also have introduced delimiters when selecting topics as their own biases may have impacted decisions. To control for this, they have included the majority of information available in the sources, from that with the strongest and broadest support to data gathered by only one of the groups.

## Findings and Discussion

The material below is divided into three primary topic areas, who are research developers, where are they found, and what do they do. Prior to addressing these topics, information about the level of confidence for the material from the four sources is presented.

**Confidence Level**

As there are four distinct sources of input for this presentation that were gathered by different parties and at different times, the degree to which the material in each can be considered to be representative of the total population is worth noting. For the sample of 442 position descriptions and the self-reported membership data, 100% of the information was included in the analysis. Since that was the case, results of analysis can be treated with a high degree of confidence. For the two surveys, both of which had good to strong response rates, confidence level and confidence interval can be calculated. When calculations are completed for a 95% confidence level (95% certainty that the mean for the entire population was represented in the sample), the intervals are 6.3% for the 2017 survey of NORDP members and 5.5% for the 2015 salary survey. While these intervals are slightly above the 95 to 5 standard, the information from these data sets can be verified at many points through comparison to the much larger membership data set and position description data, both of which included all available information. This was one of the values of combining the findings from the four sources. As numerous comparisons, presented in detail below, found these two sources to be strongly compatible with the full set of membership data, the material in them can be considered a good representation of the field of research development during the period in which the data was gathered. Even though this is the case, the NORDP membership data was used as the preferred source for summaries of findings, whenever possible, since it represented responses from all active members and was the largest sample.

**Who are Research Development Professionals?**

*Demographics*

Demographic information was gathered by each of the active studies. Specifications in this area were not present in the position announcements with the exception of desired years of experience. Research development professionals have been and continue to be predominantly female. On the 2015 NORDP salary survey, "82% of…respondents reported their gender as female and 17% as male…1% preferred not to answer" (Kiser, Soelberg, Mulfinger & McGuigan, 2015, p. 2). The results were very similar for the 2017 research survey, 83% female, 16% male, and 1% preferred not to answer. In the full membership data set, 76.7% selected female, 20.9% male, and 2.4% preferred not to answer. Results from the three sources regarding race and ethnicity show that research developers are predominantly White. In 2015, the salary survey team reported that 90% of their respondents were White, 3.8% were Asian, 3.3% were reported in a combined category (Other/Two/No Answer), 2.4% were African-American, and 0.5% were Native American (Kiser, Soelberg, Mulfinger & McGuigan, 2015). The 2017 research survey included more racial categories but also had a very high percentage of persons selecting White as did the 2017 member roll although the membership records had a disproportionately high number of persons who preferred not to answer (Table 1).

Table 1. Racial Identity of Respondents in Three Sources

| Racial Categories | 2015 Salary Survey | 2017 Membership | 2017 Research Survey |
|---|---|---|---|
| White/Caucasian | 90% | 74.9% | 86.0% |
| Asian | 3.8% | 4.3% | 5.0% |
| African-American | 2.4% | 3.0% | 1.0% |
| Hispanic/Latino | - | 2.6% | 3.0% |
| Other (Other/Two/No Answer) | 3.3% | 1.9% | 2.0% |
| Prefer not to answer | - | 13.3% | 3.0% |
| *Note:* Salary survey percentages are from Kiser, Soelberg, Mulfinger, and McGuigan (2015). The 2015 salary survey team chose to create a single category which combined responses received for other, two races, and no answer and that pattern was followed with the data from the two other sources. | | | |

The survey distributed to the NORDP membership during and following the 2017 conference asked for the respondent's age. The responses were submitted as whole numbers but they are presented in Table 2 grouped as 30 years of age or less, in six five-year categories, and in the category 61 years of age or greater.

Table 2. Age Distribution of Research Development Professionals on the 2017 Research Survey

| 30 or < | 31-35 | 36-40 | 41-45 | 46-50 | 51-55 | 56-60 | 61 or > |
|---|---|---|---|---|---|---|---|
| 5% | 14% | 16% | 16% | 14% | 13% | 15% | 7% |

There was a bi-modal response pattern with two adjacent categories, 36-40 years of age and 41-45 years of age, containing the same percentage of respondents. Each was selected by 16% of informants although there was only a very slight difference in the number of respondents grouped in each of the five-year categories. The

overall result was a bi-polar distribution, with 16% and 15% as the two peak values, a mean age of 46, and a standard deviation of 10 for years of age.

### Years of Research Development Experience

The 442 job announcements reviewed referred to desired levels of experience in RD. Sixty-eight percent of the announcements requested the applicant have three to five years of experience with Directors frequently asked to possess more experience than Grant Writers and five years as the most frequently requested level of experience (Preuss, Eck, Fechner & Walker, 2018). Both the NORDP membership and the 2017 research survey data addressed experience as a research development professional. The membership form asked for a numeric value and the range of responses submitted was 0 to 40 years with a mean of 8.22 years. Table 3 summarizes the membership data as percent of members by two-year intervals through 12 years of experience, then in two four-year intervals, one five year category, and one final column for persons reporting more than 25 years of experience. The increase in interval size following 12 years of experience was enacted as the counts of persons in two-year intervals were small from that point forward. While 12.6% of respondents claimed more than 16 years of RD experience, 52.6% indicated they had less than 6 years of experience.

Table 3. Years of Research Development Experience Reported in the 2017 NORDP Membership Roll

| 2 or < | >2-4 | >4-6 | >6-8 | >8-10 | >10-12 | >12-16 | >16-20 | >20-25 | > 25 |
|--------|------|------|------|-------|--------|--------|--------|--------|------|
| 28.1% | 11.9% | 12.6% | 7.6% | 10.0% | 6.2% | 11.0% | 5.7% | 3.0% | 3.9% |

The 2017 survey of NORDP members asked informants to provide a whole number value for years of research experience up to 20 or to note that they had more than 20 years of RD experience and to label themselves as an aspirant, early-career, mid-career, advanced research developer, or as a representative of an organization that interacts with research development professionals. Very few respondents, only 3.0%, answered that they were aspiring to join the field, while 30.0%, 32.0%, and 28.0%, respectively classified themselves as early-career, mid-career, and advanced practitioners. The remaining 7.0% were representatives of funding agencies, service providers, and other organizations that interact with research development professionals. The number of years of experience in research development reported by the survey takers is found in Table 4. While it appears that some categories were slightly over-sampled and others under-sampled when compared to the 2017 membership roll data (Table 3), the overall distribution of experience is very similar to the whole NORDP membership pool with 50.6% of survey takers claiming six or fewer years of experience on the survey (Table 4) and 52.6% in that category in the membership roll (Table 3).

Table 4. Years of Research Development Experience Reported on the 2017 Survey

| 2 or < | >2-4 | >4-6 | >6-8 | >8-10 | >10-12 | >12-16 | >16-19 | >20 |
|--------|------|------|------|-------|--------|--------|--------|------|
| 16.7% | 20.0% | 13.9% | 13.3% | 11.7% | 4.4% | 9.4% | 1.7% | 8.9% |

### Highest Degree Obtained

All four sources addressed the educational background of informants. Seventy-three percent of the position descriptions reviewed by Preuss, Eck, Fechner and Walker (2018) required that the applicant possess an advanced degree. A master's degree was the desired qualification 40% of the time and a doctorate was 33% of the time. Information regarding the highest degree attained was also gathered on the 2015 NORDP salary survey, the 2017 research survey, and in the 2017 membership data. Data from these three sources, summarized in Table 5, shows a consistent pattern with master's degrees and doctorates as the most frequent response (up to 87.1% of responses) and, when categories of doctorates are combined, nearly evenly distributed between the two categories (38.7% with master's degrees in the 2017 membership data and 43.4% with doctorates). It appears that institutions have been able to recruit persons with the advanced degrees they were seeking.

Table 5. Highest Degree Obtained by Research Development Professionals

| Source | Assoc. | BA/BS | Master's | EdD | PhD | JD | ScD | Other |
|--------|--------|-------|----------|-----|-----|-----|-----|-------|
| 2015 salary survey | - | 9.0% | 45.0% | 2.0% | 37.0% | 2.0% | - | 5.0% |
| 2017 research survey | 1.1% | 11.7% | 44.1% | - | 41.9% | 1.1% | - | - |
| 2017 member roll | 0.2% | 13.5% | 38.7% | 1.5% | 39.3% | 2.4% | 0.2% | 4.1% |

Note: Salary survey percentages are from Kiser, Soelberg, Mulfinger, and McGuigan (2015). The 2015 salary survey included distinctions between types of baccalaureate and master's degrees that have been combined for this table as well as including masters in Fine Arts, Public Health, Public Administration, Public Policy, Library Science, Library and Information Science, Technical and Professional Communication, and Social Work in the "Other" category.

***Information about Length and Type of Employment***

The 2017 survey conducted by the authors included two queries about length of employment. These focused on length of employment in the respondent's current position and with their current employer. These response sets show different patterns with nearly 70% of informants in their current position for four years or less but over 57% of the same informants working for their current employer longer than four years (Table 6). This appeared to indicate that a good number of persons were recruited to, grew into, or had positions in research development created for them by their employer. To investigate this supposition, calculations of averages were completed. The average for years in research development and with current employer in the 2017 survey data was 8.7 years and 7.8 years respectively (mean for years with current employer was 8.22 years in the 2017 membership data). Yet, the average for length of time in the informant's current job in the survey data was 4.5 years. Combined, these figures indicate promotion from within. Further analysis showed that 51% of the respondents had worked for their current employer before achieving their current position and these persons had an average of 8.2 years working for their employer. Their peers who had been recruited from outside to join their current employer represented the remaining 49% of the respondents. These persons were not predominantly a group of new entrants to the field of research development as they had an average of 7.4 years of RD experience.

Table 6. Years of Work in Current Position and with Current Employer Reported on the 2017 Survey

|  | 2 or < | >2-4 | >4-6 | >6-8 | >8-10 | >10-12 | >12-16 | >16-19 | >20 |
|---|---|---|---|---|---|---|---|---|---|
| Current position | 42.2% | 27.2% | 7.8% | 8.3% | 3.9% | 4.4% | 1.7% | 1.7% | 2.8% |
| Current employer | 22.3% | 21.8% | 8.9% | 9.5% | 5.6% | 8.9% | 10.6% | 3.4% | 14.5% |

***Full Time versus Part Time Employment***

The final topic that helps define who research development professionals are is whether they are full- or part-time employees. This data existed in the membership roll data for 2017 which represents responses from all active members. Only 2.4% of the entire membership reported being a part-time employee.

***Summary of Findings regarding Who Research Development Professionals Are***

The information above regarding demographics, educational background, and professional experience reported by research development professionals in three different samples makes two things possible. First, it facilitates characterization of the extent to which the 2015 salary survey respondents and the informants for the 2017 research survey completed by the authors of this article align with the population from which they were drawn, the NORDP membership. Second, they make it possible to formulate a description of the average research development professional.

The 2015 and 2017 survey samples appear to be substantially representative of the overall NORDP population. While females may have slightly oversampled in both, that would be hard to avoid in a population that is over 75% female. The same can be said of the inclusion of White informants who appear to have been slightly oversampled while African-Americans may have been slightly under-sampled. This must, though, be seen as a tentative conclusion since 13.3% of the NORDP membership pool did not select a race classification (Table 1). Reports of years with current employer, of experience in RD, and highest degree obtained were very similar to the NORDP membership information. Other areas of comparison that follow were also similar, like the distribution of RD professionals between public and private colleges and universities (Table 8), distribution across the 50 states (Table 10), and types of institutions and organizations at which RD professionals are employed (Table 7). Based on these comparisons, it appears that the 2015 and 2017 survey samples can be considered representative of the NORDP membership so that the material in this presentation, from all sources, can be understood to be an accurate description of the field during the period from 2015 to at least the end of 2017.

Based on the information presented above, the average RD profession was a middle-aged, White, female with six or less years of experience in research development (52.6% of members; 50.6% on the 2017 survey) who held an advanced degree, who was likely to be working in a position she had held for four years or less (69.4%) and for an entity that had employed her for longer than four years (57.4%). Her work commitment was full time. While the majority of NORDP members reported less than six years of experience in research development, there was also a large number who had much more experience. The mean for years of experience was 8.22, nearly 30% of respondents reported more than 10 years of experience in the field, and at least one party reported

being in the field for 40 years. This description of the average RD professional parallels some national trends but stands in contrast to others.

Like in many other areas of higher education and in science, technology, engineering, and mathematics (STEM) fields (Linley & George-Jackson, 2013; Sharkawy, 2015; NSF, 2018), minorities are underrepresented in the field of research development. Hispanics/Latinx/a/os make up 18.3% of the US general population (US Census, 2019) but were 3.0% or less of the parties represented in the two RD sources with information about race and ethnicity. African-Americans represent 13.4% of the US population but 3.0% or less of research development professionals. Yet, women with advanced degrees, more than 40% of whom hold doctorates, comprised over 75% of RD professionals. This stands in contrast to national patterns in higher education (Cobb-Roberts & Agosto, 2011) and STEM where women are underrepresented (Sharkawy, 2018; Graf, Fry & Funk, 2018). The percentage of STEM field employees who are female is applicable to research development because a substantial proportion of the research and other programming facilitated by RD professionals is in STEM disciplines.

A comparison of time in current position with time at current employer identifies another characteristic of the field. A good number of persons were recruited to, grew into, or had positions created for them in research development by their employer rather than being recruited from outside the organization.

**Where Research Development Professionals are Found**

The sources for this discussion include information which makes descriptions of the type of institution at which research development professionals are employed and the distribution of RD professionals across the United States possible. The names of the entities requesting applications were known for each of the 442 position descriptions reviewed by Preuss, Eck, Fechner, and Walker (2018). This material is informative regarding the number and type of institutions and organizations that sought RD professionals and the growth in demand across time.

> There were 187 unique institutions included in the position announcement library. Fifty-nine percent of the institutions had only one job description in the library but 52% of the descriptions were from institutions who had four or more announcements…These included frequent postings by R1: Doctoral University – Highest Research Activity…or similarly research-active institutions.

> When considering trends across time,…It was not until 2010 that more than five positions were announced a year….In that year, the number of announcements tripled and from that point forward there was a steady growth in the number of position descriptions per year (Preuss, Eck, Fechner & Walker, 2018, p. 8).

While the above sets the context and denotes the last decade as a period of rapid expansion in RD, the NORDP membership roll information for 2017 and responses to the 2015 salary and 2017 research surveys provide more detailed and accurate insight regarding where RD professionals work.

*Type of Employer*

Both the 2017 survey and NORDP membership registration asked for a classification of the type of institution or organization for which the informant worked. Both used the same set of categories. The combined list with associated response levels appears in Table 7. The vast majority of RD professionals work for institutions of higher education that offer doctoral degrees, 72.8% in the 2017 membership data, although 8.6% of the NORDP members came from other categories of colleges and universities in the United States. The remainder of the membership was distributed across other types of organizations that take an active role in externally-funded research, universities and research entities outside the US, and organizations that sponsor NORDP.

The 2015 salary survey asked whether the informant worked for a public or private college or university and the 2017 membership data included this information. In the membership data, there were multiple additional options, like hospital, independent research institute, and land-grant university, as the question was a select all that apply query. This resulted in answers from some informants that did not note whether their employer was a public or private entity as they selected only one option like Minority-Serving Institution or Research One Institution. In these cases, the name of the organization was used in an internet search to determine whether the employer was a public or private institution. Since the option to submit more than one descriptor was discretionary and many informants did not select multiple descriptors, the percentage of answers in categories

other than public and private were not included in analysis (Table 8). All responses for organizations outside higher education were included in the category "Other" to produce a sort similar to the 2015 salary survey data.

Table 7. Places of Employment Reported by Research Development Professionals

| Employer Categories | 2017 Membership | 2017 Research Survey |
|---|---|---|
| Community College | 0.3% | - |
| Baccalaureate college | 3.6% | 5.0% |
| Master's granting college/university | 4.7% | 5.6% |
| Doctorate granting university | 72.8% | 80.0% |
| Consulting firm | 2.4% | 1.1% |
| Higher education association | 0.6% | - |
| Higher education consortium | - | - |
| Hospital | 1.6% | 0.6% |
| National laboratory | 0.1% | - |
| Research foundation | 0.4% | - |
| Research institute | 2.6% | 2.8% |
| Special focus higher education institution | 0.4% | 1.7% |
| Other non-profit organization | - | 1.1% |
| State or federal government agency | - | 0.6% |
| University outside of the United States | 2.9% | 0.6% |
| International organization | 1.4% | - |
| NORDP sponsor | 0.9% | - |
| Other | 5.3% | 1.1% |

Table 8. Distribution of Research Development Professionals across Public and Private Institutions

| | 2015 Salary Survey | 2017 Membership |
|---|---|---|
| Public college/university | 78.0% | 71.9% |
| Private college/university | 22.0% | 22.9% |
| Other | - | 5.4% |
| Note: Salary survey percentages are from Kiser, Soelberg, Mulfinger, and McGuigan (2015). | | |

Based on the 2017 membership data (Table 8), approximately 72% of research development professionals work for public colleges and universities. Comparison of the 2015 salary survey outcomes and the 2017 membership data appears to indicate the figure declined by six percentage points between 2015 and 2017 but it is likely that was not the case. The salary survey figures reported in Table 8 are limited to individuals employed at institutions of higher education. While it is possible that the 2015 survey oversampled persons employed in that setting, other data sets in the salary survey report indicate that 6.0% of the respondents in 2015 worked outside higher education, a figure very similar to the 5.4% of the 2017 NORDP membership employed outside higher education. When the responses in the Other category for membership data are excluded, the distribution between public and private institutions is nearly identical to the 2015 figures.

The 2017 research survey sought to gain further insight in this area. It asked informants to classify their employer by Carnegie classification. A summary of the responses submitted appears in Table 9.

While it appears that the 2017 research survey slightly oversampled individuals working at doctorate-granting institutions based on the information available about the entire NORDP membership in the 2017 (see Table 7), an interesting pattern is present within higher education. The vast majority of informants worked at R1, R2, and R3 institutions (Table 9). A number of reasons may exist for this concentration of RD professionals in the upper level of higher education including the number of faculty members at these types of institutions, the related volume of proposals submitted and funded, the ability to compete for more and larger awards because of the breadth of faculty and facilities available as well as the potential to set aside Facilities and Administration funds to support research development from what is likely to be a larger income stream resulting in larger groups of employees dedicated to RD. This pattern was checked with the 2017 membership data. The annual research expenditures of the 39 institutions reported to have five or more RD professionals were consulted. Thirty-four of them had above $100 million dollars a year in research expenditures. This supports the supposition above and may suggest another explanation. Since there are groups of persons at these institutions, it is possible that they talked about or even encouraged each other to respond to the surveys which would account for at least some of the oversampling in respect to public institutions. All 39 of the institutions with the most RD professionals were doctorate-granting institutions while 34 of the 39 were public rather than private institutions of higher education.

Table 9. Reported Carnegie Classification of the Employers of Research Development Professionals

| Institutional Description | Percentage | Institutional Description | Percentage |
|---|---|---|---|
| R1: Doctoral universities – highest research activity | 58.8% | | |
| R2: Doctoral universities – higher research activity | 15.4% | Baccalaureate colleges – Diverse fields | 1.1% |
| R3: Doctoral universities – moderate research activity | 6.3% | Baccalaureate/Associate's colleges | - |
| M1: Master's colleges and universities – larger programs | 0.6% | Associate's colleges | - |
| M2: Master's colleges and universities – medium programs | 2.3% | Special Focus Institutions | 3.4% |
| M3: Master's colleges and universities – smaller programs | 1.7% | Tribal College | - |
| Baccalaureate colleges – Arts & Sciences focus | 3.4% | Other/Not a Carnegie classified organization | 6.9% |

## Location of Employer

The 2015 salary survey requested and the 2017 membership data contained information that identified the state in which the informant's institution was found. To facilitate use of both data sets, the pattern Kiser, Soelberg, Mulfinger and McGuigan (2015) utilized to present this information has been followed. Rather than presenting the responses state-by-state, they are listed by region of the country using a sort developed by NORDP to facilitate regional meetings and collaboration. Table 10 lists the region names and the states included in each, using abbreviations, starting in the northeast United States and moving down the coast and then across the country. Since the 2017 membership data and survey results listed few internationals, the international locales included in each of the NORDP regions are not noted in Table 10. Persons interested in knowing how these are assigned can find them on NORDP's website on the NORDP Regions page.

Table 10. Distribution of Research Development Professionals across Regions of the United States

| | 2015 Salary Survey | 2017 Membership |
|---|---|---|
| Northeast Region (CT, MA, ME, NH, RI, VT) | 9% | 8.2% |
| Atlantic Region (DC, DE, MD, NJ, NY, PA, VA) | 16% | 18.0% |
| Southeast Region (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, WV) | 14% | 18.8% |
| Great Lakes Region (IL, IN, MI, MN, OH, WI) | 18% | 16.1% |
| Midwest/Mountain Region (CO, IA, ID, KS, MO, NE, ND, SD, MT, NV, UT, WY) | 14% | 11.2% |
| Southwest Region (AZ, NM, OK, TX) | 15% | 12.7% |
| Pacific Region (AK, CA, HI, OR, WA) | 14% | 15.1% |
| Note: Salary survey percentages are from Kiser, Soelberg, Mulfinger, and McGuigan (2015). | | |

Based on the 2017 data set, which included all NORDP members at the time it was compiled, the 2015 salary survey had a sample that appears to have been consistent with the distribution of the NORDP membership. More to the point for this consideration, the two sources show that research development professionals are distributed across the United States. The disaggregation of the 2017 membership data revealed that there was only one state in which there was not a NORDP member, Alaska, and that there was a NORDP member in the territory of Puerto Rico. It also showed that while there was a distribution of RD professionals across the country, there were locales in which they were concentrated.

In 2017, the top two states by headcount for NORDP membership, which is being used as a general proxy for research development professionals, were California (n = 81) and Texas (n = 52). These two states had 19.8% of all US-based research development professionals. Adding the four states that occurred next in the rank order, North Carolina (n = 39), Illinois (n = 36), New York (n = 34) and Florida (n = 33), 41% of the known US-based research development population was accounted for. Two-thirds of the known population was reached by adding the next eight states: Massachusetts (n = 29), Pennsylvania (n = 25), Virginia (n = 24), Michigan (n = 21), Indiana (n = 19), Ohio (n = 19), Utah (n = 18), and Tennessee (n = 17).

A number of factors may have influenced this pattern including the concentration of institutions of higher education in each state, but these data suggest that colleges and universities in some states had, by 2017, invested more heavily in developing an RD presence than their peers in other states. This was confirmed by comparing with the states in which the 39 institutions with five or more RD professionals were found. Only two of the 14 states with the most RD professionals (CA, FL, IL, IN, MA, MI, NC, NY, OH, PA, TN, TX, VA, UT) were without one of the institutions with the highest per organization headcount of RD professionals. Those two states were New York and Virginia.

Another pattern present in the disaggregated data is the concentration of RD professionals at a limited number of institutions. The NORDP membership roll from the state of Utah in 2017 is a good example of this. While there were 18 NORDP members from that state, they all worked at one well-known private university (n = 3) or one of two state universities (n = 10 for one and n = 5 for the other). South Carolina is a second example with four of the eight known RD professionals in the state working for a large, private university, three for a medical university, and one for a regional hospital yet, the South Carolina Information Highway (SCIWAY.net, 2020) lists 60 colleges and universities in the state while Utah has 31 (State of Utah, 2020). Having all the known RD professionals in two states housed at six entities while there was a combined total of 91 colleges and universities in the states indicates concentrations of persons at a smaller number of sites as did the percentages of offices with three or more parties, nearly 40% of the 2017 membership roll (Table 17).

Disaggregating the 2017 membership data by number of employees per institution and then comparing to Carnegie classification, size of the institution, locale, selectivity, and land grant status illuminated this pattern of concentration. The information available for 2018 from the Carnegie Classification of Institutions of Higher Education website (Center for Post-Secondary Research, 2018) was used for this purpose. Institution size was limited to general groupings like four-year large, four-year medium, four-year small, etc. Locale employed a 13 point classification system used in the Carnegie data set, although only eight codes applied. Selectivity in the Carnegie set had three levels, inclusive, selective, and more selective and land grant status was a dichotomous value.

The threshold for a "concentration" of RD professionals was set at five or more persons at one institution. This decision was reached as there was a natural break in the counts at that point. There were 39 institutions with five or more employees who were members of NORDP but only 14 with four employees who were members. The classification of each of the 39 institutions in all five categories in the Center for Post-Secondary Research Carnegie data was checked. The population density by square mile for each state in which one of the 39 institutions was located was also checked (States101.com). In the group, 34 were state institutions of higher education and five were private universities. There were 33 doctorate-granting, very high research activity schools (R01) with all five of private institutions fitting in this category, one state medical school, four doctorate-granting high research activity state schools (R02), and one state university that was a doctorate-granting moderate research activity institution (R03). Thirty-four of the institutions were more selective when accepting students while four were selective (this classification system was not applicable to the medical school). Thirty-seven were large institutions and two were of medium size while 21 were land grant universities. The institutions were located in 23 different states. Thirty-one of them existed in states that were in the top 21 states by population density. The other eight were flagship state universities in less populated states. Consideration of locale and other forms of sorting were inconclusive although the one R03 university in the group was in a sparsely populated state as were three of the four R02 schools. Thus, it appears that large state universities, and some large private universities, primarily in more populated states and with more selective admission policies and a strong and extended focus on research activity, as evidenced by Carnegie classification, tended to be the entities that employ groups of RD professionals.

### *Summary of Findings regarding Where Research Development Professionals are Found*

Approximately 72% of the known research development professionals in the United States work at public institutions with the same percent working for doctorate-granting institutions. These individuals were spread across the United States but there were 14 states in which two-thirds of all known RD professionals could be found in 2017. There was also a tendency to employ groups of five or more RD professionals exhibited by large state universities, and some large private universities, which were mostly located in more populated states or were their state's flagship institution, had more selective admission policies, and had a strong and extended focus on conducting research.

**What Research Development Professionals Do**

Content analysis of 442 research development position announcements revealed a wide range of position titles and some gradation in titles (e.g., Associate Vice President, Director, Coordinator, Specialist, Analyst) with the most common job title in the position announcements being Director (Preuss, Eck, Fechner & Walker, 2018). Interestingly, some job responsibilities were common to all types of positions. The most notable of these was responsibility for monitoring and/or distributing information about funding opportunities. The position announcements indicated that R01 and similar universities were the most likely to be seeking research develop professionals as has been substantiated above. Twenty-two large universities generated 52% of the position descriptions exhibiting a tendency on their part to have a cluster of RD professionals. The names of these organizations are listed in Preuss, Eck, Fechner and Walker (2018). While the information above is not surprising, it represents findings from the first known investigation of research development and, as such, required verification and delineation of related detail. The 2015 NORDP salary survey, 2017 membership data, and 2017 research survey made this possible.

*Position Titles of Research Development Professionals*

The information in the salary survey report aligned with that from the 442 position descriptions in respect to diversity in titles and the existence of strata. Of respondents on the 2015 salary survey, 52.8% reported a title including the word Director, 24.9% had titles in which the primary noun was "Coordinator/Officer/Specialist/ Administrator/Analyst/Facilitator/Grant Writer" (Kiser, Soelberg, Mulfinger & McGuigan, 2015, p. 1), and 9.0% held higher level institutional leadership positions like "Associate or Assistant Dean or Vice Provost/Chancellor or Vice Chancellor/President" (Kiser, Soelberg, Mulfinger & McGuigan, 2015, p. 1).

The 2017 research survey and the membership data provide more detail. The research survey gave informants the opportunity to place themselves in one of 16 categories. The categories were developed by isolating the main nouns found in position titles in the 442 position descriptions analyzed (Preuss, Eck, Fechner & Walker, 2018). When persons could have the noun in a title but be an associate or assistant to the primary party, a category including those descriptors was also included. Only one response was permitted so that the respondents had to select the category they felt best summarized their role. The results from that query are in Table 11 as percentages of respondents on the 2017 research survey whose job title contained these formulations. The membership data was sorted in the same manner.

Table 11. Self-Categorization of Research Development Professionals' Titles and Roles

|  | 2017 Membership | 2017 Survey |
|---|---|---|
| Administrator | 4.0% | 8.8% |
| Analyst | 1.9% | 2.8% |
| Assistant/Associate Director | 7.6% | 7.1% |
| Associate Vice Provost/Associate Provost | 0.9% | - |
| Assistant Vice President/Associate Vice President | 4.4% | 4.4% |
| Coordinator | 8.3% | 6.6% |
| Dean/Associate Dean | 3.4% | 2.8% |
| Director/Executive Director | 37.3% | 26.5% |
| Manager | 9.9% | 7.7% |
| Officer | 5.6% | 2.8% |
| Proposal Developer/Grant Writer | 11.0% | 16.6% |
| Provost | - | 1.1% |
| Specialist | 7.6% | 7.2% |
| Vice President | 1.0% | 1.7% |
| Vice Provost | 0.5% | - |
| Other | - | 3.3% |

The material in Table 11 demonstrates that substantial diversity existed in the types of roles held by persons who identify as research development professionals or, who choose to maintain a membership in NORDP and were sufficiently motivated to complete a survey about RD roles and responsibilities. Yet within that diversity, Directors (37.3%/26.5%) and proposal development personnel (11.0%/16.6%) are the largest two groups. A second tier exists for positions categorized as Administrator (4.0%/8.8%), Manager (9.9%/7.7%), Specialist (7.6%/7.2%), Assistant or Associate Director (7.6%/7.1%), and Coordinator (8.3%/6.6%). It appears that the hierarchical pattern which could be postulated based on the position description and salary survey data was

present (see *Compensation Provided to Research Development Professionals* below). While there were persons with elevated roles like Vice President and Dean in the NORDP membership, the largest group is Directors. The second largest group is proposal development personnel and that is followed by a group of persons whose titles communicate a responsible but subordinate role like Assistant Director, Manager, and Coordinator. Thus, RD appears to be developing into a multi-tiered field.

### *Roles and Responsibilities in Research Development*

While the most common descriptor of a position in the review of job announcements was Director, there was marked diversity in phrasing of job titles (Preuss, Eck, Fechner & Walker, 2018) which also occurred in the 2015 salary survey findings, the 2017 membership roll, and the 2017 survey data. That fact and the rapid growth in research development employment opportunities denoted by the increase in positions advertised over the last decade, the growth in NORDP membership to over 1,000 individuals, and RD professionals working at institutions and organizations across the United States makes it important to understand the ways roles and responsibilities in RD are being defined and assigned. The review of 442 RD job descriptions had two primary findings (Preuss, Eck, Fechner & Walker, 2018). There was a wide variety of roles and responsibilities listed although a core set of key descriptors existed (e.g., Director, Manager, Coordinator, and Specialist). Second, some responsibilities were common to all job descriptions. Responsibility to gather information about funding opportunities was found for all types of positions "even those with the lowest threshold of experience" (Preuss, Eck, Fechner & Walker, 2018, p. 13). "Notation of responsibility to disseminate this type of information also appeared across all job titles" (Preuss, Eck, Fechner & Walker, 2018, p. 14).

The 2017 research survey asked informants to specify which roles and responsibilities they held. The list of options from which they were asked to select came from the Wikipedia page for Research Development (n.d.). This decision was taken for two reasons. It was the most extensive and best organized list of RD activities the researchers could identify and using it would facilitate verification of whether the list was accurate and, potentially, whether the roles and responsibilities listed were assigned in discernable patterns although the diversity in job titles limited ability to make comparisons of this type. The only categories for which there were large enough pools to support even simple forms of disaggregation were Directors and Proposal Developers/Grant Writers (PD/GW).

Tables 12, 13, 14, and 15 list the responses received for the 62 areas of responsibility included in the survey. Four tables are presented to keep the RD activities divided into the four main categories, strategic research advancement (Table 12), communication of research and research priorities (Table 13), enhancement of collaboration (Table 14), and proposal support functions (Table 15) as well as to facilitate recognition of patterns within the four groups. The activities are rank ordered from most frequently selected to least frequently selected within each of the four primary topic areas. Table 16 lists the responsibilities for which there were statistically significant differences in mean response level between Directors and Proposal Developers/Grant Writers. The applicable responsibilities are rank ordered based on responses from Directors in the first four sections of the table but based on PD/GW response rates in the last section, proposal support functions.

Tables 12. Strategic Research Advancement: Rank Ordering of Research Development Professionals' Reported Responsibilities

|  | 2017 Survey |
| --- | --- |
| Support of strategic planning activity. | 68.5% |
| Advise administration about issues related to research. | 60.8% |
| Manage/contribute to decisions regarding internal funding. | 58.0% |
| Facilitate partnerships with external entities. | 53.6% |
| Identify/recruit appropriate faculty to participate in external partnerships. | 48.0% |
| Coordinate/manage the limited submission process. | 45.9% |
| Identify areas of institutional research priority. | 42.0% |
| Facilitate visits to or from Program Officers/funding agency personnel. | 41.4% |
| Assist with sponsor site visits. | 35.9% |
| Liaise with funding agencies about future directions. | 29.8% |
| Monitor/provide advice about industry collaboration and partnerships. | 27.1% |
| Serve as VP/VC for Research's representative to university community and external visitors. | 21.0% |
| Supervise/coordinate/manage accountability or compliance functions. | 19.3% |
| Interact with political leaders. | 9.4% |

Tables 13. Communication of Research and Research Priorities: Rank Ordering of Research Development Professionals' Reported Responsibilities

| | 2017 Survey |
|---|---|
| Collect and disseminate funding opportunity information. | 76.8% |
| Provide proposal/award information/metrics to others. | 71.3% |
| Conduct grant writing workshops. | 70.7% |
| Website support (e.g., grant opportunities and proposal development information). | 56.4% |
| Work to increase visibility or impact of university with external funding sources. | 32.2% |
| Manage public information about/marketing of research (digitally and/or in print). | 22.1% |

Tables 14. Enhancement of Collaboration: Rank Ordering of Research Development Professionals' Reported Responsibilities

| | 2017 Survey |
|---|---|
| Facilitating collaborations between investigators at your own institution. | 79.0% |
| Provide guidance and expertise for building and fostering connections and teams. | 67.4% |
| Develop and/or coordinate resources and tools to promote collaboration. | 64.6% |
| Initiate/support initiation of new cross-disciplinary research efforts. | 64.4% |
| Convene and coordinate multi-disciplinary interest groups. | 60.8% |
| Sponsor research-oriented gatherings and events. | 59.7% |
| Facilitating collaborations with investigators at other institutions. | 44.2% |
| Maintain faculty expertise database and other collaboration web tools. | 26.5% |
| Manage the institution's Research Networking Tool. | 9.9% |

Tables 15. Proposal Support Function: Rank Ordering of Research Development Professionals' Reported Responsibilities

| | 2017 Survey |
|---|---|
| Assist faculty in finding funding opportunities. | 81.8% |
| Distribute announcements of funding opportunities. | 79.6% |
| Assist faculty in navigation of institutional administrative/research administration structures. | 77.9% |
| Editing proposal drafts. | 74.6% |
| Proposal development support for large, center-like awards. | 71.3% |
| Proposal development support for individual investigator awards. | 69.6% |
| Project/process management for proposal development teams. | 66.3% |
| Liaise with funding agencies during proposal development process. | 61.9% |
| Managing/revising/proofreading biosketches. | 57.5% |
| Analyze proposal reviews and provide feedback for investigators or institutional officials. | 56.4% |
| Grant writing of administrative or management portions of applications. | 54.7% |
| Grant writing of resources, facilities, equipment portions of applications. | 54.1% |
| Collecting Letters of Support. | 54.1% |
| Maintain a file of successful proposals. | 53.6% |
| Suggesting collaborating scientists for a proposal. | 53.0% |
| Developing budgets and budget justifications for applications. | 48.1% |
| Coordinating pre-submission peer reviews of proposal drafts. | 41.4% |
| Grant writing of programmatic/educational intervention portions of applications. | 40.9% |
| Grant writing of timeline portions of applications. | 40.3% |
| Proposal submission support (copying, mailing, pdf generation, etc.). | 40.3% |
| Grant writing of outreach portions of applications. | 39.8% |
| Coordinating/finding collaborating institutions for a proposal. | 38.1% |
| Manage requests for cost sharing. | 37.0% |
| Grant writing of communications/dissemination sections of applications. | 35.9% |
| Assist with "just in time" requests or other requests for information by sponsors after proposal submission. | 35.9% |
| Developing diversity sections for grant proposals. | 33.1% |
| Manage "red team" reviewers or external review process. | 29.3% |
| Grant writing of evaluation sections of applications. | 26.0% |
| Responsibility for conflict of interest and compliance concerns in proposal development. | 25.4% |
| Coordinating core facility information. | 25.4% |
| Grant writing for technical/scientific portions of applications. | 22.7% |
| Developing responsible conduct of research sections of grant proposals. | 22.1% |
| Assist with initial post-award set-up and/or communicate with collaborators post-award. | 21.0% |

Tables 16. Statistically Significant Differences between Responses from Directors and Proposal
Developers/Grant Writers on the 2017 Research Survey

| | Director | PD/GW | p value |
|---|---|---|---|
| Years with current employer | 9.47 | 6.47 | 0.04 |
| *Strategic Research Advancement Responsibilities* | | | |
| - Support of strategic planning activity. | 81% | 43% | < 0.01 |
| - Manage/contribute to decisions regarding internal funding. | 75% | 27% | < 0.01 |
| - Facilitate partnerships with external entities. | 75% | 23% | < 0.01 |
| - Advise administration about issues related to research. | 73% | 47% | 0.02 |
| - Facilitate visits to or from Program Officers/funding agency personnel. | 58% | 30% | 0.01 |
| - Identify areas of institutional research priority. | 56% | 27% | 0.01 |
| - Coordinate/manage the limited submission process. | 50% | 10% | < 0.01 |
| - Assist with sponsor site visits. | 48% | 23% | 0.02 |
| - Monitor/provide advice about industry collaboration and partnerships. | 33% | 10% | 0.01 |
| - Supervise/coordinate/manage accountability or compliance functions. | 27% | 10% | 0.05 |
| - Interact with political leaders. | 15% | 0% | 0.01 |
| *Responsibility for Communication of Research and Research Priorities* | | | |
| - Conduct grant writing workshops | 71% | 90% | 0.03 |
| - Work to increase visibility or impact of university with external funding sources. | 54% | 27% | 0.01 |
| *Enhancement of Collaboration Responsibilities* | | | |
| - Initiate/support initiation of new cross-disciplinary research efforts. | 81% | 57% | 0.03 |
| - Develop and/or coordinate resources and tools to promote collaboration. | 81% | 50% | 0.01 |
| - Convene and coordinate multi-disciplinary interest groups. | 81% | 50% | 0.01 |
| - Sponsor research-oriented gatherings and events. | 75% | 40% | < 0.01 |
| - Facilitating collaborations with investigators at other institutions. | 63% | 30% | < 0.01 |
| *Proposal Support Responsibilities* | | | |
| - Editing proposal drafts. | 75% | 100% | < 0.01 |
| - Analyze proposal reviews and provide feedback for investigators or institutional officials. | 54% | 83% | < 0.01 |
| - Managing/revising/proofreading biosketches. | 50% | 83% | < 0.01 |
| - Grant writing of resources, facilities, equipment portions of applications. | 54% | 80% | 0.02 |
| - Grant writing of timeline portions of applications. | 33% | 77% | < 0.01 |
| - Grant writing of programmatic/educational intervention portions of applications. | 44% | 70% | 0.02 |
| - Grant writing of outreach portions of applications. | 40% | 70% | 0.01 |
| - Grant writing of communications/dissemination sections of applications. | 35% | 63% | 0.02 |
| - Developing diversity sections of grant proposals. | 25% | 53% | 0.01 |
| - Grant writing for technical/scientific portions of applications. | 13% | 47% | < 0.01 |
| - Manage requests for cost sharing. | 46% | 20% | 0.02 |
| - Assist with initial post-award set-up and/or communicate with collaborators post-award. | 31% | 7% | < 0.01 |

The information gathered with the 2017 survey substantiated the accuracy of the list of roles and responsibilities on the Wikipedia Research Development webpage and demonstrates that the four primary areas of responsibility, participating in or leading attempts to strategically advance research activity at institutions and organizations, communicating about research and research priorities, enhancing collaboration, and proposal support are appropriate summaries. All of the options were selected by at least 9.4% of respondents. Twenty-seven of the 62 possible commitments were selected by over 50% of respondents. And, only eight of 62 options were selected by less than 25% of the NORDP members who took the survey. As the first known empirical support regarding this or other lists of RD roles and responsibilities, the material above has a myriad of applications including helping organizations and institutions "better understand what kinds of individuals, with what kinds of training, skills, and abilities, are best suited for various roles within research development, as well as what their professional trajectories are like….[to] improve our capacity to recruit, retain, and provide succession planning and longer-term career paths for individuals" (Stone, 2015, para. 5) entering and continuing in the field.

The response pattern also confirms that RD professionals have positions with a wide range of responsibilities. Of the 62 possible commitments listed, only three were selected as active commitments by less than 20% of the respondents. Even more telling, four of 14 strategic research advancements responsibilities were reported by over 50% of respondents, four of six communication of research and research priorities were noted by over 50% of respondents, six of the nine forms of enhancement of collaboration were selected by over 50%, and 15 of 33 proposal support functions were reported to be the responsibility of over 50% of respondents. Several of the items with the lowest overall response rates demonstrate points at which speciation is occurring.

Assisting with initial post-award set-up is an example of a known commitment that may be developing as area of activity for some RD professionals and not others as it was selected by 21% of all respondents. When comparisons were made between the two largest groups of informants, Directors and Proposal Developers/Grant Writers, the lower overall rating was the result of very few persons in the second group being active in this area. While the results indicated differentiation in job functions in respect to this responsibility, they but did not facilitate determination of whether that was the result of local needs and interests, the strengths and skills of the RD professional in question, professional or educational background, or another factor.

There was also substantial evidence of specialization in the field. While there were no statistically significant differences in age, gender, level of education, type of institution, years of experience in research development, or years in current position between persons with the title Director and Proposal Developers/Grant Writers, there were statistically significant differences for many of the job functions and for years with current employer. Persons with the title Director were more likely, at statistically significant levels, to report responsibility for 11 of the 14 strategic research advancement functions, one of the six communication responsibilities, five of the nine enhancement of collaboration activities, but only one of the 33 proposal support tasks listed, and to have been at their current employer for longer than 6.5 years.

Thus, it appears that persons at the Director level, while having a diverse set of responsibilities, focus more on strategic research advancement and enhancing collaboration than proposal development/grant writing personnel. Areas in which Proposal Developers/Grant Writers were more likely to be active than Directors were one of the six communication functions and, not surprisingly, eleven of the 33 proposal support responsibilities. Yet, there were no statistically significant differences between the two groups for 32 of the 62 research development responsibilities. This illustrates significant overlap can exist between responsibilities of Directors and PD/GWs, possibly defined by local needs, preferences, and targets or by a small RD footprint at institutions (51.4% of NORDP members worked in an office staffed by one or two persons; Table 17).

The difference in the years the two groups had spent with their current employer was significant. When disaggregated into these two groups, Directors averaged 9.5 years at their current employer while Proposal Developers/Grant Writers had 6.5 years as an average. This difference was statistically significant at the $p = .04$ level. These figures were the same for individuals recruited from within and from outside their current employer's pool of employees. This can be interpreted as proposal development personnel/grant writers being the more transient parties, that the set of responsibilities is a mid-level RD position (above Coordinator, Specialist, etc. but below Director), or that this role is a secondary emphasis that is a next logical step after a research development office and Director are established. The data gathered with the 2017 research survey could not support investigation of these differences due to low respondent counts in some areas and the need to make multiple assumptions in order to cluster the third group of titles (Coordinator, Manager, Specialist, etc.) and the characteristics of parties occupying these roles. Delineation of the exact cause or causes for the difference in years with current employer for Directors and PD/GWs will have to be resolved by future investigations.

The data also supported the notion that many of the RD Directors were generalists. While there were statistically significant differences between them and Proposal Developers/Grant Writers, there was also substantial overlap in responsibility. There were no areas in which PD/GW were active and Directors were not, with the opposite also being true, and the 30 categories in which there were statistically significant differences leaves 32 additional categories in which there were no differences. This very broad, and perhaps locally defined, nature of the Director role also supports the idea that the Director may often be the founding member of an RD office potentially followed by other personnel as need arises. It further supports RD Directors being the parties who frequently man one-person offices. They were six of 21 persons on the 2017 research survey reported as being a single person office with Proposal Developer/Grant Writer the next most frequent at four persons.

**Characteristics of RD Offices**

*Size of Office*

The research team did not gather information from the 442 position announcements about the number of employees in the research development units (Preuss, Eck, Fechner & Walker, 2018). This decision was taken because a limited number of the announcements included a description of supervisory responsibility and even fewer noted the number of persons to be supervised.

The 2015 NORDP salary survey asked about the size of the research development team at the informant's institution. The response options were as follows: (1) no formal office or less than one full time equivalent (FTE), (2) one to two FTEs, (3) three to four FTEs, (4) five to nine FTEs, and (5) more than nine FTEs. The 2017 NORDP membership data also included the number of employees in the respondent's research development offices. The categories used were similar to the salary survey but did not include "no formal office or less than one full time equivalent." Respondents could also reply "I don't know." The research survey conducted in the late spring of 2017 sought the same information but included the option "one part-time person" rather than "no formal office or less than one FTE" and listed both "one FTE" and "two FTE" rather than grouping the two together. Responses received for all three surveys are summarized in Table 17.

Table 17. Number of Persons Employed in Research Development Offices

| | 2015 Salary Survey | 2017 Membership | 2017 Research Survey |
|---|---|---|---|
| One part-time person | - | - | 3.5% |
| No formal office or less than one FTE | 8.0% | - | N/A |
| One FTE | 33.0%* | 51.4%* | 12.9% |
| Two FTE | | | 18.4% |
| Three to four FTE | 31.0% | 17.9% | 31.2% |
| Five to nine FTE | 19.0% | 14.0% | 18.4% |
| More than nine FTE | 9.0% | 6.6% | 12.5% |
| I don't know | - | 2.7% | 4.9% |
| No answer | - | 7.4% | - |
| Note: Salary survey percentages are from Kiser, Soelberg, Mulfinger, and McGuigan (2015). | | | |
| * Denotes response sets combining one to two full time equivalents. | | | |

Respondents reported that RD offices tend to be small with the most common answer on each survey being one to two people (51.4% of all NORDP members). Larger offices are present, as has already been noted and is evidenced by nearly 60% of responses in 2015 and over 60% in 2017 stating three or more parties existed in the RD office, representing an oversampling in these areas when compared to the full membership roll. As has been demonstrated above, the RD offices with the most personnel tend to occur at larger, flagship institutions that have an historic focus on externally funded research.

*Years of RD at an Institution*

The 2017 research survey is the only source that requested information about the number of years a research development office had existed at the informant's institution. This information was requested as whole numbers but has been grouped in the same manner as used above with the informant's years of experience in research development to have meaningful categories (Table 18).

Table 18. Years a Research Development Office has Existed at the Respondent's Institution

| 2 or < | >2-4 | >4-6 | >6-8 | >8-10 | >10-12 | >12-16 | >16-19 | >20 |
|---|---|---|---|---|---|---|---|---|
| 17.5% | 15.2% | 14.6% | 9.4% | 10.5% | 3.5% | 9.9% | 0.6% | 18.7% |

The material in Table 18 informs and is related to the findings for years of experience and the tendency for institutions to promote from within which have been noted above. Fully 57.3% of respondents work for an institution where an RD office has existed for six years of less but the overall mean years of experience with the informant's current employer was 8.22 years. The number of institutions reporting 20 or more years of organized research development activity was very similar to the number with large offices as 20.6% of NORDP members reported working in offices with five or more staff (Table 17).

The type of institution for all organizations reported to have had an RD office for 20 or more years was checked and the vast majority, 27 out of 30, were doctoral granting institutions. The exceptions were a state or federal government agency, a baccalaureate granting institution, and one special focus higher education institution. While nearly 20% of the RD offices about which information was gathered have existed for over 16 years, the majority of RD offices in 2017 had existed for over a decade less than that indicating that the field is, in many locales, in its early stages. This aligns with the findings above regarding years of personal experience in RD. It also aligns with the growth in NORDP membership from 570 in 2015, to 712 in 2017, and over 1,000 in 2020.

### *Type of RD Unit in Which the Informant was Employed*

The NORDP membership data included an item of information not present in the other sources, the type of research development unit in which the informant was employed. The responses received were:
- Aspiring RD professional (likely not affiliated with an organized office) – 1.7%.
- Central/institutional office – 37.6%.
- Consultant – 1.7%.
- Corporate/foundation relations – 0.9%.
- Federal/government relations – 0.7%.
- Institutional strategic initiatives – 0.2%.
- Other – 20.1%.
- Researcher/academic department – 4.5%.
- Sponsored research/programs office – 16.5%.
- Unit-/school-level RD office –17.0%.

The majority of the NORDP membership, this discussion's proxy for research development professionals, reported, in descending order, working in a centralized office, in a pattern that did not fit the descriptors provided (i.e., Other), for an RD office housed in an institutional unit or college, and in a sponsored programs office. The next largest group were researchers or representatives of academic departments. This information demonstrates that the RD profession has a variety of institutional offices in which practitioners may be found, that centralized units, while the most common pattern, are not in the majority, and that there is a lot of diversity in respect to the type of unit to which a research development professional might belong. This level of diversity aligns with the findings regarding the length of time RD offices had existed at institutions and the reports of personal experience.

### *Annual Research Expenditures of Institutions with RD Professionals*

The 2015 NORDP salary survey and the 2017 membership data included information about institutional research expenditures. The 2015 NORDP salary survey used 11 categories to report this information. The 2017 membership data employed a different group of seven categories. Table 19 shows the response patterns with the numbers in the column headings representing million dollar increments until the letter B appears which stands for billion, Unkn stands for unknown, and I don't know is abbreviated IDK.

Table 19. Annual Research Expenditures of Institutions that Employ RD Professionals

| To 1 | >1-10 | >10-50 | >50-100 | >100-200 | >200-400 | >400-600 | >600-800 | >800-1B | >1-1.4B | Unkn |
|---|---|---|---|---|---|---|---|---|---|---|
| 4.0% | 6.6% | 11.1% | 4.5% | 15.7% | 17.2% | 10.6% | 14.6% | 3.0% | 5.6% | 7.1% |

Note: Figures above are from the salary survey findings presented in Kiser, Soelberg, Mulfinger, and McGuigan (2015). Those below are from the 2017 NORDP membership data.

| <25 | 25-50 | 51-100 | 101-200 | 201-400 | >400 | IDK |
|---|---|---|---|---|---|---|
| 12.2% | 7.7% | 7.7% | 13.3% | 13.0% | 23.0% | 20.7% |

The findings from the two sources are similar especially when one considers that 20.7% of the 2017 respondents replied "I don't know." While research development professionals work for institutions at all levels of research expenditure, the majority who knew this information reported working for institutions with over $100 million a year in research expenditures although the presence of a significant proportion of respondents in both sources who did not know the figure makes this a tentative conclusion. To check this against other findings, the reported research expenditures of each of the 39 institutions with five or more RD professionals on staff was checked. Twenty of them were reported to have >$400 million in expenditures, eight reported >$201-$400 million, six >$101-$200, and three were in the $25-$50 million grouping. This appears to support the conclusion that 50%

or more of RD professionals work for institutions with large portfolios of research awards, an assertion which has also found support above regarding other topics.

**Compensation Provided to Research Development Professionals**

Both the 2015 NORDP salary survey and the 2017 membership data contained information about compensation. Unfortunately, the membership data could not be used to verify the survey information as up to 80% of the informants appear to have hidden their true salary. By far, the most common response to the query was selecting less than $30,000 a year. This response was submitted by persons who reported working full time at all types of institutions and with every form of title including Vice President, Associate Provost, and Dean. The second most common occurrence was that no answer was selected. The submission of a questionable response or choosing to not submit an answer was likely caused by the information being gathered on a membership enrollment form which would contain the individual's name, employer, title, and salary. It appears the inclusion of the last item violated many people's sense of privacy. The anonymous responses gathered for the salary survey did not suffer from this problem.

Kiser, Soelberg, Mulfinger and McGuigan (2015) is, at present, the only published source for information about compensation for RD professionals. They reported the salary information submitted in ranges and used zip codes provided by informants to identify the county in which their employer was located. This allowed salaries to be "normalized using the 2013 county cost-of-living index table from the Council for Community and Economic research" (COLI normalized) (p. 1). Summaries of the findings are as follows.
- The range of actual research development salaries was from less than $25,000 a year up to between $200,001 and $225,000. When COLI normalized, the range was from less than $25,000 to $200,000.
- 34.8% of NORDP members' reported salaries between $50,000 and $75,000 a year but when normed using the county index, the figure was 40.9%.
- 29.4% of NORDP members reported salaries in the $75,000 to $100,000 range which, when normalized, resulted in a nearly the same percentage, 27.8%.
- 91.2% of actual salaries and 86.4% of COLI normalized salaries were above $50,000 a year.
- Persons with the word Director or Manager in their position title were considered as one group although Executive Directors were sorted to a different group. In the Director/Manager group, individuals who supervised the most persons, five or more, "reported the highest median annual salaries, $109.5K or $100K, respectively" (p. 1). When normalization for cost-of-living by county, "these converge to ~$92.5K annually" (p.1).
- The titles "Coordinator/Officer/Specialist/Administrator/Analyst/Facilitator/Grant Writer" (p. 1) were also considered as a group. Little difference was found in "the median salaries of those from different sized offices (annual salaries range from $59K to $68K) and this range flattens further upon cost-of-living normalization (to between $56K and $62K)" (p.1).
- When grouped according to NORDP regions (Table 10), the members in the Atlantic and Pacific regions "reported the highest median salary; however, when normalized for the cost-of-living, Atlantic and Southwest region members" were the highest. "The Southeast region members reported the lowest median actual salary but when normalized the Northeast region member salaries slid lower than the Southeast" (p. 1).
- Overall, "the highest median normalized salary was reported by members at doctorate-granting Universities" (p.1).
- Actual median salaries reported "by members at private institutions (22% of total) compared to members at public institutions (78% of total)" (p.1) were higher but that pattern flipped "when salaries are normalized by the cost-of-living index" (p.1).
- "The highest median salaries (actual and normalized) were reported by members at institutions that had annual research award portfolios greater than $1B or less than $1M" (p. 1).
- "The highest median normalized salary was reported by members who have obtained PhD and JD as their terminal degree; however, when looking at actual salaries, those with MS and PhD degrees have equal median salaries" (p. 1).
- "Offices with the largest number of FTEs (>9) are associated with slightly higher median salaries" (p. 1).

These summaries provide a general overview of RD compensation in 2015. They support the notion that there is stratification between the Director and Coordinator, Specialist, etc. levels as the salary ranges differ. They support the idea that a Proposal Developer/Grant Writer is a third primary role in research development, again based on salary level. They also illustrate that RD professionals are compensated within the range for Assistant and Associate Professors.

McDonald and Sorensen (2017) published minimum, mean, and maximum salaries in 15 academic disciplines for 2014-2015. In twelve of the disciplines, the upper 91.2% of actual RD salaries fit within or were approximate replicas of the salary range McDonald and Sorensen reported for Associate and Assistant Professors (the exceptions were Finance, Business, and Accounting faculty). The differences were that $50,000, the lower limit of RD's upper 91.2%, exceeded the minimum salary in all but one of the 24 applicable listings for Assistant and Associate Professors and the upper limit of $225,000 also exceeded the maximum salary for all but one of the 24 applicable listings from McDonald and Sorensen. However, only 6.8% of the NORDP respondents reported an actual salary above $150,000. While reported RD salaries occurred within the Assistant and Associate Professor range, the majority reported were at the lower end of the professorial scale as 73.0% of the RD respondents reported salaries at or below $100,000, 87.2% reported salaries of or below $125,000, and the median RD salary would occur above $75,000 but below $100,000 (overall mean, median, and mode values were not reported by Kiser, Soelberg, Mulfinger, and McGuigan). A rough estimate is possible as 43.6% of RD professionals made $75,000 a year or less. That would likely place the median salary at or just above the one-fifth point in the next category, <$75,000 up to $100,000, in which 29.4% of RD professionals were found (6.4% is slightly more than one fifth of 29.4%). Using $80,000 as a rough estimate, $5,000 is one fifth of the $25,000 difference between $75,000 and $100,000, the median RD salary would exceed or be similar to the mean salaries for ten of the 15 disciplines at the Assistant Professor level and two of the disciplines at the Associate Professor level.

The salary survey information also denotes pay tiers in research development. Individuals paid at the upper end of the RD scale had the titles Vice President/Provost/Chancellor, Associate and Assistant Vice President/Provost, and Associate/Assistant Dean (median salary of $175,000 for the VP/VC groups and $123,000 for the Associate/Assistant Deans) (Kiser, Soelberg, Mulfinger & McGuigan, 2015). The titles Director and Manager plus Associate Director/Manager were the next step down the RD ladder (medians of $91,000 and $80,000 respectively). A lower tier, median salaries of $60,000 a year up to $75,000 a year, existed for all other job titles. The normalized salaries of RD professionals facilitated an additional understanding, that there is variation in RD salaries by region of the country although this is common (Anonymous, 2010; Kirillidou & Morris, 2015). Kiser, Soelberg, Mulfinger, and McGuigan (2015) did not consider gender differences in compensation though this is also known to be a common pattern (Graf, Brown & Patten, 2019; Palmer, 2014; Payscale.com, 2020).

### *Summary of Findings Regarding What Research Developers Do and Their Level of Compensation*

While there are persons with elevated roles like Vice President and Dean in the NORDP membership, the largest group was Directors. The second largest group was proposal development personnel followed by a group of persons whose titles communicate a responsible but subordinate role like Coordinator, Manager, and Specialist. Thus, RD appears to be developing into a multi-tiered field, an idea supported by the levels of compensation reported.

The information gathered with the 2017 research survey substantiates the list of roles and responsibilities on the Wikipedia research development webpage as applicable and accurate. The response pattern also confirms that RD professionals have positions with a wide range of responsibilities with some patterns of specialization emerging. All of the options listed were selected as responsibilities for 9.4% or more of RD professionals and no statistically significant differences existed between Directors and PD/GWs for 32 of the responsibilities. Yet, statistically significant differences were found for 30 of 62 areas of responsibility when comparing persons with the title Director to those with the title Proposal Developer/Grant Writer. It appears that persons at the Director level, while having a diverse set of responsibilities, focus more on strategic research advancement and enhancing collaboration than proposal development/grant writing personnel. The data also suggests that many of the RD Directors were asked to be involved in all areas of research development at their institution. Areas in which Proposal Developers/Grant Writers were more likely to be active than Directors were conducting grant writing workshops, although 71% of Directors were active in this area, and, not surprisingly, eleven of the 33 proposal support responsibilities. There was also a statistically significant difference in the years Directors and proposal development personnel had spent with their current employer. Several explanations are possible for this and further investigation will be necessary to determine which pattern(s) is/are actually occurring.

Respondents reported that RD offices tend to be small with the most common answer on each survey being one to two people. Larger offices are present, as has already been noted, and these tended to occur at larger, flagship institutions that had an historic focus on externally-funded research. While RD professionals work for institutions at all levels of research expenditure, many reported working for institutions with over $100 million a

year in research expenditures. It is these organizations that generally have the larger RD offices and that have had RD offices for longer periods of time. Centralized offices were the pattern most frequently reported, 37.6% overall, but the next highest category was "Other" with 20.1%, and seven other patterns existed (consultants were not included in this count) indicating that there is not yet a generally accepted place for RD offices in an institution's organizational structure.

Research development professionals were found to have compensation packages that roughly parallel those reported for Assistant and Associate Professors (McDonald & Sorensen, 2017) albeit at the lower end of that scale. Individuals with administrative roles received salaries at the top of the RD range, persons whose titles include the nouns Director and Manager formed the next tier down the pay scale, and Coordinators, Specialists, Analysts, Grant Writers, etc. made up the bottom tier of the pay scale. Further investigation will be necessary to determine whether there are forms of specialization in the larger group of titles at the base of the RD pay scale and how that applies to Proposal Developers/Grant Writers who were demonstrated to be significantly involved with a specific subset of RD roles and responsibilities.

## An Updated Definition of Research Development

Several definitions of research development have been offered, as noted in Preuss, Eck, Fechner, and Walker (2018), but none, to that point, had been based on research findings. Preuss, Eck, Fechner, and Walker advanced an empirically-based definition of research development two years ago which is as follows:

> Research development is the application of personal skill and insight, best-practice and theory from a variety of disciplines, and practical tools in interactive, organized patterns targeting preparation for and encouragement and support of investigations, planned interventions, and analysis of these processes for [purpose/purposes] (2018, p. 15).

The purpose of research development was left undefined in the 2018 definition as the data sources used to create the statement, position descriptions, assumed knowledge of the purpose. Rather than substitute their personal interpretation, the authors chose to leave that portion of the definition unspecified until further evidence became available. The material from the three additional sources described above produced the evidence necessary to update this and other definitions of RD.

As noted in Preuss, Eck, Fechner, and Walker (2018), a small group of definitions for research development have been published. These are found in the following sources, Levin (2011), Budescu and Walker (2012), Kuo (2016), and NORDP (n.d.). These and the definition quoted above were compared to each other and to the findings described in this article. That resulted in a definition of research development which is the first that can be verified at every point by empirical evidence. The updated, evidence-based definition of research development is as follows.

Research development seeks to position individuals, teams, and organizations advantageously for pursuit of opportunities to finance and conduct research, enact educational initiatives, support and present the arts, and facilitate community service by undertaking proactive planning, strategic communication about and use of information and resources, by offering training, supporting and enhancing intra-institutional collaboration and collaboration with external entities, providing assistance formulating proposals and associated documentation, establishing or advancing institutional capacity, managing institutional processes, liaising with funders and officials, and completing accountability and compliance functions. As such, research development at colleges and universities is part of the focus on advancing knowledge generation and sharing knowledge to benefit society. As there is no formal pattern of professional training for the field, research development professionals apply personal skill and insight, best-practice and theory from a variety of disciplines, and practical tools in interactive, organized patterns, which are often proactive, targeting preparation for and encouragement and support of investigations, planned interventions, performance, presentation, publication, and analysis of these processes.

## Conclusions

A summary of findings has been included in each section of this document so statements here will be limited to general observations. The material above makes it clear that research development, while having been practiced by some persons for over 20 years, is still in the early stages of its development as a professional field. The findings also illustrate there is a widespread perception in higher education, and to a lesser degree in health care

and some other fields, that RD professionals are desirable employees. They are employed at all types of institutions, are dispersed across the US states and territories, and the number of persons identifying with the field has nearly doubled over the last five years. Even with a diaspora of representatives, many of whom are the sole RD professional at their institution/organization, areas of specialization are arising.

Research development is also distinct from other fields in a number of ways. The lists of roles and responsibilities noted above illustrate that it is an area of professional practice which addresses different activities than research administration (RA) and research administrators. While some RD professionals reported being housed in research administration offices and there are areas of overlap between RD and RA, research development professionals clearly have different responsibilities than their RA peers (see Certified Research Administrator Body of Knowledge outline pp. 17-19 published by the Research Administrators' Certification Council). RA professionals focus more on records, contracts, facilities, accounting and finances, regulations and compliance, and other concerns related to implementation and administration of the projects RD professionals are often involved in planning and proposing. RD professionals focus on four areas of activity, strategic advancement of research and other grant-supported activities, communication about research and grant-funded activity and their respective priorities, enhancing collaboration within organizations and between organizations, and supporting the production of proposals for research projects, educational interventions, advancing the arts, and providing community service. Another distinctive of research development is the high percentage of practitioners who are females with master's degrees and doctorates. Why it is a female dominated field, like nursing and teaching, is unknown. But RD attracts and retains a population that, in 2017, was over 75% female and in which 82.9% of parties reported holding a master's degree or doctorate.

The content of this publication can be seen as a foundation upon which further investigation of RD can be built. The data sources, when multiple sources addressed a topic, produced similar to very similar findings even though the material was gathered by three different groups at four different times across a two year period. The survey response rates were good to strong and the level of confidence calculations indicate survey material was 95% likely to contain the population's mean although with intervals slightly above 5%. That the information from the survey sources aligned well with the 2017 NORDP membership data, for which there was 100% representation, bolstered the level of confidence with which the survey results could be treated.

## Recommendations

Research development, as a new field in and outside higher education and a female dominated field, offers unique and interesting investigative opportunities. A myriad of studies in a variety of forms and at all scales can be undertaken as there is a need for discovery, verification, and elucidation in every area. The material above points to many unanswered questions such as: (1) Why are research development professionals predominantly White, middle-aged, women with advanced degrees? (2) Does the gender pay gap exist in research development? (3) Why aren't more minorities active in the field? (4) Where are all the new RD professionals coming from, how do they learn about the field, and what draws them to RD? (5) How is the need for RD determined by upper level administrators who approve new positions? (6) What is the perceived "value added," on the part of various constituencies, for having RD professionals at an institution or organization and how do the actual RD roles and responsibilities align with that perception/those perceptions? (7) What were the steps, what was the trajectory, and what was timeline for the 50% or more of research development professionals who grew into jobs at their current employer or who had positions created for them? (8) What has caused the wide range of responsibilities reported for RD professionals? (9) What are the skill sets required in various RD roles? How are they similar and how do they differ? (10) What are appropriate metrics and patterns for assessing the performance and outcomes of individuals and groups active in RD? How might these differ by role or at different types of organizations? (11) Are there differences in the way research development is practiced in and outside of higher education? (12) Can university systems (e.g., California State University System or the Texas A&M University System) benefit from co-locating RD professionals in a System Office or is an institution-based placement preferable? And, (13) How can what is now known about RD be used to establish "what kinds of individuals, with what kinds of training, skills, and abilities, are best suited for various roles within research development, as well as….[to] improve our capacity to recruit, retain, and provide succession planning and longer-term career paths for individuals" (Stone, 2015, para. 5)?

Some persons in research development have suggested that through its many forms of interaction with researchers, administrators, funders, and other decision-makers as well as its coordination of procedures and processes, RD also has a quality control or quality assurance function even in respect to investigative methodology. The winnowing and refining that takes place, the learning that occurs, the advocacy for or against

practices, processes, and patterns, etc. all include the intention of improvement, whether that be in the proposal, the process, the outcomes, or the way grant opportunities are conceived of, structured, and presented. Some of the 62 roles and responsibilities that were investigated can be interpreted as assuming a continuous improvement and quality control function but that orientation was not explicitly stated. As that was the case, this article did not address whether quality control and advancement are a part of research development. The authors suggest that this would be interesting and profitable topic for investigation.

Since research development literature is dispersed across a wide number of fields and uses key words and phrases that are employed in a great many academic disciplines and areas of specialization, publications addressing the field are very difficult to find. A standard for use of some words and phrases should be established to improve the potential that articles and reports can be located using search engines. These should be included in lists of key words by authors describing and researchers presenting findings in research development. Since there is not a journal dedicated to research development, a managed site on which known sources of information about RD can be placed should be re-established. The logical party to undertake this would be the National Organization of Research Development Professionals, the only professional organization in the United States for RD personnel.

While workers in any field develop abbreviations and shorthand references to topics, roles, responsibilities and qualifications, it would be advisable for research development professionals to avoid adopting one phrase. Use of the phrase research developer exists both in and outside RD and it has a broad and historic application outside RD as a person who completes investigations, using data or published sources, to produce a report or reference material. Since this analyst function is not a major responsibility of RD professionals, using the shorthand title in job postings, publication, and even in general interaction is not advisable. Doing so would contribute to the difficulty in distinguishing research development, the professionals active in the field, and information about the field from that describing different forms of activity with purposes that are not emphasized in research development.

## References

Andersson, L. (2012). Impressive research development in dental traumatology from Brazil. *Dental Traumatology, 28*(4), 255.

Anonymous. (2010). Where you live makes a big difference. *Quality Progress, 43*(12), 33-37.

Budescu, G. & Walker, B. (2012, February). Social scientists and research development: What do research development professionals do? *American Sociological Association Footnotes* (p. 3). Retrieved from: http://www.asanet.org/sites/default/files/footnotes_feb12_final_2.pdf

Center for Post-Secondary Research. (2018). *2018 update public file*. Bloomington, IN: Indiana University School of Education. Retrieved from: https://carnegieclassifications.iu.edu/downloads.php

Choi, J. (2020). Mitigating the challenges of partner knowledge diversity while enhancing research & development (R&D) alliance performance: The role of alliance governance mechanisms. *Journal of Product Innovation Management* 37(1), 26-47.

Cobb-Roberts, D. & Agosto, V. (2011). Underrepresented women in higher education: An overview. University of South Florida Scholars Commons. https://scholarcommons.usf.edu/cgi/viewcontent.cgi?article=1000&context=els_facpub

Graf, N., Brown, A., & Patten, E. (March 22, 2019). The narrowing but persistent gender gap in pay. Washington, DC: Pew Research Center. Retrieved April 6, 2020 from: https://www.pewresearch.org/fact-tank/2019/03/22/gender-pay-gap-facts/

Graf, N., Fry, R., & Funk, C. (January, 2018). 7 facts about the STEM workforce. Retrieved from: https://www.pewresearch.org/fact-tank/2018/01/09/7-facts-about-the-stemworkforce/

Hoffman, K. (20017). LINQ to Web 2.0. *Dr. Dobb's Journal, 32*(1), 22-28.

Hosaka, T., Kubota, K., Hameed, A. S., & Komaba, S. (January 15, 2020) Research development on K-Ion batteries. *Chemical Reviews,* 5.

Kolb, S. M. (2012). Grounded theory and the constant comparative method: valid research strategies for educators. *Journal of Emerging Trends in Educational Research and Policy Studies*, *3*(1), 83-86.

Kirillidou, M. & Morris, S. (2015). ARL annual salary survey 2014-2015. Washington, DC: Association of Research Libraries.

Kiser, G., Soelberg, T., Mulfinger, L. & McGuigan, A. (2015). NORDP annual salary survey. Chicago, IL: National Organization of Research Development Professionals.

Kuo, M. (2016, October 17). Being the enabler. *Science.* doi: 10.1126/science.caredit.a1600145

Levin, J. (2011, March 27). The emergence of the research development professional. *The Chronicle of Higher Education.* Retrieved from: https://www.chronicle.com/article/The-Emergence-of-the/126906

Linley, J. L. & George-Jackson, C. E. (2013). Addressing underrepresentation in STEM fields through undergraduate interventions. *New Directions for Student Services, 144*, 97-102.

McDonald, J. B. & Sorensen, J. (2017). Academic salary compression across disciplines and over time. *Economics of Education Review, 59*, 87-104.

National Science Board. (2018). *Science and Engineering Indicators 2018*. Alexandria, VA: National Science Foundation.

NORDP. (n.d.). What is research development? Retrieved from: https://www.nordp.org/what-is-research-development-

Palmer, J. L. (2014). Academic salary survey by gender. *AMSTAT News: The Membership Magazine of the American Statistical Association,* 440, 20-21.

Payscale.com. (March 31, 2020). *The state of the gender pay gap 2020*. Payscale. https://www.payscale.com/data/gender-pay-gap

Preuss, M., Eck, K., Fechner, M. & Walker, L. (2018). Describing research development: A first step. *Research Management Review, 23*(1), 1-19.

Research Administrators' Certification Council. (2020). *CRA handbook.* https://ptcny.com/pdf/RACC-CRA.pdf

Research development (n.d). In *Wikipedia.* Retrieved June 27, 2018 from https://en.wikipedia.org/wiki/Research_development

SCIWAY.net. (2020). South Carolina – colleges and universities. Retrieved March 31, 2020 from: https://www.sciway.net/edu/colleges/alphalist.html

Sharkawy, A. (2015). Envisioning a career in science, technology, engineering and mathematics: Some challenges and possibilities. *Cultural Studies of Science Education*, *10*(3), 657-664.

State of Utah. (2020). Colleges & universities. Retrieved April 3, 2020 from: https://www.utah.gov/education/colleges.html

States101.com. (2020). U.S. States – populations, land area, and population density. Retrieved March 31, 2020 from: https://www.states101.com/populations

Stone, D. (2014, November). Dispatches from 20 North Wacker: dispatch #1. Chicago, IL: National Organization of Research Development Professionals.

Stone, D. (2015, March). Dispatches from 20 North Wacker: dispatch #2. Chicago, IL: National Organization of Research Development Professionals.

Tzabbar, D. & Baburaj, Y. (October, 2019). Optimizing the effectiveness of geographically dispersed research & development teams. *Organizational Dynamics, 48*(4).

US Census Bureau. (2019). QuickFacts: United States. Retrieved March 27, 2020 from https://www.census.gov/quickfacts/fact/table/US/RHI725218