Monahan, Kris; Shaklee, Toni; Zornes, Deborah

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Chapter 1.2

History of Research Administration/ Management in North America

Kris Monahan[a], *Toni Shaklee*[b] *and Deborah Zornes*[c]

[a] *0000-0001-7769-6542, Providence College, Providence, RI, USA;*
Conceptualisation, Writing—original draft, Writing—review and editing
[b] *0000-003-4883-8972, Oklahoma State University, Stillwater, OK, USA;*
Writing—original draft, Writing—review and editing
[c] *0000-0001-5831-9290, Royal Roads University, Victoria, BC, Canada;*
Writing—original draft, Writing—review and editing

Abstract

In North America, the profession known as 'research management' elsewhere across the globe, is often known as 'research administration' and encompasses the activities and work associated with developing, administering, accounting for and complying with sponsor requirements, guidelines, procedures, and laws relating to externally funded projects. In the United States and Canada, the expansion of respective federal government agencies and programmes was the major factor for the need and growth of the research administration profession. Initially, administrative and business staff often administered research funding, however over the decades, a fully-fledged profession has evolved with distinct specialisations. Both the United States and Canada now have maturing professions and professional societies to organise and advance research administration. This chapter outlines the chronological origins, growth, and professionalisation of research administration in North America, with a focus on the United States and Canada. Mexico has not yet evolved a formalised research administration infrastructure.

Keywords: North America; research management and administration; professionalisation; US; Canada; history; research administration

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1940s–1950s: The Beginnings of Research Administration in North America

While this chronology begins in the 1940s, we acknowledge that administration of research programmes and activities in both the United States and Canada occurred prior to 1940. When did research administration in North America begin? It is reasonable to assume that research administration started when the United States federal government began to fund research. But federal funding for research has really been happening since the beginning of the republic (the Smithsonian Institution, the Morrill Act, the National Academy of Sciences, and the Hatch Act all funded research). Although federal funding of research has been taking place since the beginning of the republic, the US government did not formally support scientific research in an organised fashion until the early 1940s (Beasley, 2006).

The US federal government began funding uncoordinated research projects in the early 1940s. While there was virtually no non-financial compliance tied to these funds, it became apparent quite quickly that additional regulations would be necessary to achieve project objectives and ensure funding would be organised and managed consistently (Campbell, 2010; Myers & Smith, 2008). Beasley (2006) dates the profession's origins to the 1940s following US President Franklin Roosevelt's creation of a federal agency – the National Defense Research Council in 1940, later reorganised in 1941 as the Office of Science Research and Development (OSRD), to coordinate collaboration between federal and civilian laboratories. Roosevelt charged Dr Vannevar Bush (1945) to define 'a proposal by which both military and non-military research could be conducted during periods where war was not paramount' (p. 1). This presidential recommendation is a key historical event which is often attributed as the catalyst for research administration (Beasley, 2006).

Before 1950, 'research administration was vested with the responsibility of scientists and their research staff members' (Beasley, 2006, p. 9). In the early days, the laboratory director or general administrative staff person would likely have been responsible to administer federal funding, but as the agreements moving funds between entities became more complicated and a wide variety of compliance issues started to be put in place, the administration of research projects became too burdensome for laboratory directors. During this period, from a performing institution perspective, there was more focus on acquiring funds than on managing them. When compliance requirements did begin to emerge, they were largely financial such as budget transfers and restrictions on equipment purchases (Feldman et al., 2017).

A review of Bush's (1954) bibliography of 1,100 references on research administration refers to research administration journal articles and presentations dated as early as 1941. The references are grouped by areas that today we would view as traditional research administration tasks (budget and finance, organisation and management, personnel administration, external relations, and 'research in action') often focussed on the role of laboratory heads. Many of the references refer to 'men' which is not surprising given the time frame of the bibliography but seems in stark contrast to the current demographic of research administration which is largely female (Shambrook & Roberts, 2011; Shambrook et al., 2011).

In the United States, the Council of Governmental Relations (COGR), formed in 1948, is one of the oldest organisations with ties to professional research administration. The Central Association of College and University Business Officers formed a committee to represent the five regional associations at a time when the federal government was moving from procurement to academic research. The committee wanted 'to develop effective principles for university-government contracting, to seek acceptance of general principles in university-government relationships, and also to be a vehicle for innovation and change' (COGR, 2022). COGR has since grown to be an association of research universities, affiliated medical centres, and independent research institutes. It represents its members collectively and takes positions that reflect the consensus of its members and that are in the best interest of the research university community (COGR, 2022).

Throughout the 1950s, there was a rapid expansion of US funding and government agencies that started during World War II and as a result of Roosevelt's 'New Deal', which permanently changed the US federal government by expanding its size and scope. With the expansion of federal bureaucracy came a pointed need for careful management and public accountability of these projects. OSRD pioneered a system of procuring and managing research awards and provided training for early research administrators (Beasley, 2006).

In 1959, a small group of university administrators recognised that it was time to look beyond business and fiscal matters and into the broader aspects of research administration (Wile, 1983). According to Wile, the first official meeting of the National Council of University Research Administrators (NCURA) was held on 26 January 1960, at the University of Chicago with 45 persons attending representing 40 institutions from across the country (Wile, 1983). The formal creation of NCURA can be associated with the formalisation of the profession of research administration. NCURA is a non-profit professional society dedicated to advancing the profession of research administration through education and professional development programmes, the sharing of knowledge and experiences, and the fostering of a diverse, collegial, and respected global community (NCURA, 2022). The association has expanded and grown (Roberts et al., 2008) to more than 7,000 members, mostly from the United States, although it has members across the globe.

1960s–1970s: Federal Funding Growth and Professional Differentiation

More guidance documents and regulation from federal agencies expanded in both the United States and Canada throughout the 1960s and 1970s leading to further administrative growth and differentiation of research administration/management from other administrative work.

The emphasis in research administration broadened beyond proposal processing to proper monitoring of federal funds, based in part by a 1966 recommendation by the US Bureau of the Budget to develop federal administrative standards for research conducted at universities (GAO, 1966).

In 1967, the Society for Research Administrators (SRA) was established and by 1969 had established the first professional journal for research administrators, *The Journal of Research Administration,* which further solidified research administration as a profession with academic/scholarly pursuits of its own (Myers, 2007). In 1993, the Society for Research Administrators was renamed SRAI to reflect it as an organisation with international members. SRAI differentiates itself from other professional societies as the 'only research management society in the world whose membership spans the entire spectrum of research institutions including: colleges and universities, research hospitals and institutes, government agencies, non-profit funders of research, and industry' (SRAI, 2022).

Given the growth and proliferation of federal programmes funding research in the United States during this time, the number of individuals managing or administering these programmes also grew. The professional societies in the United States, NCURA, SRAI, and the now inactive National Conference on the Administration of Research (NCAR), each developed and expanded programming and support to build networks and deliver professional development to individuals now specialising in the federal requirements (Norris & Youngers, 1998).

While each of these professional societies had its own foci that evolved over the years, the shared effort of all the societies was to provide those individuals specialising in the numerous federal requirements within this new profession an outlet to discuss, grow, and form networks to handle the increasing demands of the faculty and researchers (Atkinson et al., 2007; Norris & Youngers, 1998). An exciting new profession was emerging through the formal networks, organisations, shared interests, and commitments.

In Canada, 1972 saw the formal establishment of a professional society, originally the Canadian Association of University Research Administrators (CAURA). The purposes were: to encourage and facilitate the development of more effective policies and procedures relating to the administration of research programme and to promote the achievement of the goals of university research policy; to provide a forum, through national and regional meetings, for the discussion and exchange of information and experience related to university research programmes, policies, and procedures; and to provide a publication of the dissemination of current information and the exchange of view of mutual problems.

The Canadian post-secondary landscape at the time was reflective of the expansion and massification of post-secondary education that was occurring throughout the 1960s and 1970s. Key funders in Canada of research at the time included the Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council (NSERC), and the Medical Research Council (MRC) which later became the Canadian Institutes of Health Research (CIHR). In addition, the National Research Council (NRC) had, and continues to have, the role of partnering with Canadian industry to take research impacts from the lab to the marketplace, where people can experience the benefits.

In the early 1970s in the United States, the protection of animals in research became more formalised through the 1971 National Institutes of Health (NIH) Policy, Care and Treatment of Laboratory Animals and the establishment of the Office of for the Protection of Research Risks (OPRR) in 1974. At the same time, the Belmont Report was written by the National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research in 1974.

> The Commission, created as a result of the National Research Act of 1974, was charged with identifying the basic ethical principles that should underlie the conduct of biomedical and behavioural research involving human subjects and developing guidelines to assure that such research is conducted in accordance with those principles. Informed by monthly discussions that spanned nearly four years and an intensive four days of deliberation in 1976, the Commission published the Belmont Report, which identifies basic ethical principles and guidelines that address ethical issues arising from the conduct of research with human subjects. (OHRP, 2022)

With some research administrators specialising in research protections, a professional association also emerged for this speciality. Public Responsibility in Medicine and Research (PRIM&R), a non-profit, was founded in 1974 to ensure the highest ethical standards in research by providing education and other professional resources to the research and research oversight community, including those who work with human subjects research protections programmes (HRPPs), institutional review boards (IRBs), animal care and use programmes, and institutional animal care and use committees (IACUCs).

By the late 1970s, both the United States and Canada began to consistently see the specialisation and differentiation of research administrators from more generic business managers. In addition to mainstream research administration, as research enterprises evolved, technologies and patents began increasing. Another professional society was formed for university technology managers, and some research administrators began to take an interest in this speciality area. Originally named the Society of University Patent Administrators (SUPA), the Association of University Technology Managers (AUTM) was formed in 1974. AUTM currently has about 3,200 members representing 800 institutions worldwide. AUTM members are involved in a variety of technology transfer activities ranging from corporate engagement to intellectual property protection.

1980s–1990s: Regulatory Growth and Differentiation

During this period in the United States, research administration saw an explosion of regulatory growth and formal requirements, including the Office of Management & Budget (OMB) Circulars, the Bayh-Dole Act, and the Single Audit Act. The Bayh-Dole Act, a US federal law enacted in 1980, enables universities, non-profit research institutions and small businesses to own, patent and commercialise inventions developed under US federally funded research programmes. During this period, organisations developed a greater interest in moving university-developed technology into the public sector and resulted in the establishment of technology transfer offices at most research-intensive universities.

Before the Single Audit Act of 1984, US federal agencies had the authority to require an audit on each federally funded activity which resulted in overlaps and inefficiencies across federal agencies. Institutions receiving federal funding now had entity-wide audit requirements if they received federal financial assistance. The Federal Demonstration Partnership (FDP) was established in 1986, initially as the Florida Demonstration Partnership, with five federal research funding agencies (National Science Foundation, NIH, Office of Naval Research, Department of Energy and Department of Agriculture), the Florida State University System and University of Miami. FDP's charge was to develop and evaluate a standardised and simplified set of terms and conditions across the agencies to make granting more effective and efficient. The first two phases of the project significantly streamlined the grant process from beginning to end, resulting in more federal dollars being directed to conducting the research instead of administration.

Phases I and II of FDP resulted in among the most sweeping of changes that today research administrators view as ‘business as usual’. These included streamlined and standardised terms and conditions, increased budget flexibility, no-cost time extensions, pre-award costs, carry-forward in continuation years, technical progress reports/ minimal continuation proposals.

The Office of Management Budget (OMB) Circulars (A-110, A-102, A-133, among others) were developed, revised, and amended in the late 1980s and 1990s. Known as 'The Circulars', these outlined the uniform administrative requirements for grants and agreements and audit requirements. Circular A-110 addressed the specific requirements and responsibilities of federal agencies and institutions of higher education, hospitals, and other non-profit organisations while OMB Circular A-102 addressed the requirements for grants and cooperative agreements with state and local governments. A-133 was issued pursuant to the Single Audit Act and set forth standards for obtaining consistency and uniformity among Federal agencies for the audit of States, local governments, and non-profit organisations expending Federal awards.

In addition to circulars, it became evident that prepared research administrators share a core body of knowledge and understanding. In 1993, the Research Administrators Certification Council (RACC) was formed, see Research Administrator Certification Council (2022), and Chapter 2.7 (Ritchie et al., 2023). The primary purpose of RACC is to certify that an individual, through experience and testing, has the fundamental knowledge to be a professional research or sponsored programmes administrator. Creating certification pathways is a clear indicator of maturing profession with standards and shared knowledge bases. This is also indicative of research administration becoming a truly separate and distinct profession with its own standards, education, and certifications (Campbell, 2010; Perkin, 1989).

Research administration/management as a profession was clearly well-established with growing specialisations in sub-fields and sub-areas in both the United States and Canada by this time. As research administration/management became more specialised and professionalised, the evolution of departmental versus central roles became more pronounced, and the profession began to focus on increasing efficiency and communication within, across, and outside of institutions. Complimentary specialisation fields such as research integrity emerged.

Professionals deepened their collaborative work through professional societies and partnerships to work towards systems of communication and improvement, particularly as computers and software begin to revolutionise the way administrators work and communicate. The US Congress passed the Federal Financial Assistance Management Improvement Act (Public Law 106-107) in 1999 to streamline the process of grantsmanship and to facilitate the process to move faster. From this point, electronic grant submission and reporting systems originated and evolved. Research administrators with skills in process improvements and technology were sought after to respond to the changing federal landscape. During the 1990s, the term 'Electronic Research Administration' (ERA) was coined to reflect the use of the computer to facilitate services. ERA changed the skill sets needed by research administrators and the technology needed by institutions to submit and manage research awards. These advances in computerised practices made it possible for streamlining and process improvements and improvements of service delivery.

2000–Present: Greater Transparency in US, Partnership and Research Impact Focus in Canada

A new century brought marked major changes in the United States and Canada. In 2000, there was an increased emphasis on the importance of research in Canada and its place within the knowledge-based economy with reports noting that

> Knowledge is the key to improving the human condition and to improving our quality of life. Search for knowledge must be an ongoing process and a top priority in all sectors because of the potential applications in health and social sciences, education and the environment, business and the economy. (National Research Council of Canada, 1999 p.3), see Chapter 5.5 (Zornes, 2023) for further details

As part of the shifts of the early 2000s, knowledge transfer (KT) and knowledge mobilisation (KM) became keys for research.

New administrative requirements from funders meant institutions needed increased administrative staff as well as new tracking, monitoring, and reporting processes and there was acknowledgement that the concepts of commercialisation of university research and 'knowledge and transfer' was not broadly understood (Universities President Council 2006). Zornes (2012) notes three phases of this push for KT and KM: (1) a focus on Return on Investment (ROI) and technology transfer, demonstrated number of spin-off companies, royalties and licencing revenue; (2) an expansion of the tech transfer, spin-off companies, and capturing IP to focus on partnerships, not just in industry, and on turning ideas into products and generating knowledge through those partnerships; and (3) the number of bright young minds that we generate and how they fuel our brightest companies and what that means in terms of economic development.

As Canada focussed on research impact, the United States during this period saw greater emphasis on team science and on larger projects (often spanning multiple disciplines and institutions). A new speciality area emerged across the United States and Canada focussing on research development. Research development professionals help researchers 'become more successful communicators, grant writers and advocates for their research' (NORDP, 2022). These professionals saw the need to build their own professional community apart from the more general research administration communities. The National Organization of Research Development Professionals (NORDP) was founded in 2010 to serve this need and has grown to nearly 1,100 members (NORDP, 2022).

Some US post-secondary institutions identified a need to develop certificate or graduate programmes in research administration. Some early programmes were short-lived due to low enrollments and logistical challenges. In 2007, NCURA's Board of Directors developed a Request for Proposals (RFP) for feasibility studies in the development of an online master's degree in research administration. The RFP went out to NCURA's membership and initially NCURA granted four $10,000 grants to explore the development of the programme and curriculum of a master's degree in research administration. Later, NCURA provided two $40,000 grants, one to the University of Central Florida and the other to Rush University Medical Center, for the development and implementation of online programmes. In addition to those institutions funded by NCURA, other institutions including Emmanuel College, Johns Hopkins University, and the City University of New York (CUNY) have developed and now provide online degree programmes (Roberts et al., 2016). Where education of research administrators previously only focussed on those already in the field who were trained in adjacent disciplines, there are now graduate degree programmes attracting individuals to a distinct profession.

US Federal initiatives, including the 2006 Federal Funding Accountability and Transparency Act (FFATA), began focussing on transparency, accountability, grant reform, and a revision to Uniform Guidance. This period saw a more focus on data management and sharing and rapid regulatory shifts to ensure research data are managed and shared appropriately. COGR and the FDP, established in previous decades, focussed heavily on ways for research administrators to work collaboratively with US government agencies in order to reduce administrative burden. But when significant federal dollars were made available through the American Recovery and Reinvestment Act (ARRA) 2009, they came with increased reporting requirements and administrative burden to manage.

A series of executive orders (EO) and Presidential memoranda that were issued by the Obama White House starting in 2009 set the stage for Federal grants management reform and led to the eventual release of 2 CFR Part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards in 2014. Known as Uniform Guidance, these regulations represented the first substantial review and coordinated revision to the series of OMB circulars which governed Federal assistance awards EO 13563 ordered a retrospective analysis of significant rules and coordination across agencies to simplify and reduce redundant, inconsistent or overlapping requirements to reduce costs. A working group made up of representatives from Executive Branch agencies, the Council of Financial Assistance Reform (COFAR) was established to conduct the review and analysis. Research administrators from major research institutions around the nation played a significant role in the multi-year effort that produced 2 CFR Part 200, Office of Management and Budget (2013). As guidance was developed to implement the new regulations both individual research administrators and their professional organisations continued to play a major role in those efforts.

In 2015, CAURA changed its name to the Canadian Association of Research Administrators (CARA) to acknowledge the diversity of organisations in the Canadian landscape. While the bulk of research administrators are located in universities, there are administrators in the private sector, in colleges, hospitals, and charities across the country.

As CAURA changed its name and updated its stated purpose and focussed on diversity, NCURA and SRAI also increased their attention, focus, programming, and emphasis on diversity, equity, and inclusion in the profession. While more work needs to be done in the future, efforts are underway to ensure there are transparent, equitable pathways to the profession. At the same time, the US and Canadian governments have implemented programmes to ensure underrepresented people and institutions have equitable access to and benefits of federal funding.

Limited Activities in Mexico

A review of literature and personal conversations revealed no formal professional society or association for research administration/management in Mexico in existence. In 2001, a group of small institutions in south-eastern Mexico launched an association to build solidarity and, hopefully, future support from the Mexican government which appeared to support larger institutions in Mexico City. Asociacion de Administradores de la Investigacion Universitaria de Mexico, Centroamerica y El Caribe was formed. An inaugural meeting was held at the University of Quintana Roo in Chetumal. It does not appear this group is currently in existence in a formalised capacity.

Conclusion

Research administration/management has emerged as a distinct and maturing profession with a number of specialities. The coronavirus pandemic wreaked havoc across the globe in 2020 leaving no profession untouched. Research administration was impacted dramatically in terms of increased federal funding for research, institutional closures, and dramatic work shifts. While some jobs and careers may have seen less work in North America as a result of the pandemic, research administration emerged as one of the professions that increased in need and presence, further solidifying research administration as a distinct, in-demand profession. The complexities of research administration/research management continue to evolve and specialise which will likely drive an increased need of research administrators/managers in North America. It is critical for the profession to continue to examine entry paths into the profession and to scale up the formal education and training available to ensure there is a workforce to meet the industry demand.

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