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Editorial

Hit the ground running: Starting to manage personnel and budgets as a new nurse scholar



Introduction

Across the United States,¹ Canada,² and the globe there is a well-known shortage of faculty positions in nursing education. Institutions such as the American Association of Colleges of Nursing (AACN)³ and the World Health Organization (WHO)⁴ have position statements and strategies to address these workforce gaps over the next two decades. Often the demand for clinical educators has outpaced the demand for research faculty (i.e., tenure track professor, research professor series) due to the greater number of vacancies for clinical preceptorships, didactic, and simulation.⁵ To better support nurses transitioning to faculty roles, it is essential to provide mentorship or training on starting and managing a research lab. Doctoral students in nursing (PhD, DNP, etc.) may graduate with very little training in managing and leading a team due to condensing of program timelines.⁶ Research management represents significant weekly workload as a faculty member, excluding writing, teaching, and service roles. There are nuances to managing a research lab as a new faculty member that need to be intentionally provided to new faculty to help retain them.

Faculty without prior roles in leadership or management may not have firsthand experience managing large budgets or teams of people. There is already an abundance of literature that quantitatively describes the association of nurse leadership styles and effective workforce outcomes such as burnout and satisfaction with the work environment.^{7,8} Nurses may certainly learn and adapt these leadership styles; however, certain hard skills required for managing a research lab are not encompassed in these theories, such as managing budgets and negotiation.⁹ For instance, a new research faculty member with a departmental start-up funding package will abruptly become accountable for staff time, project management, and delegation, despite not having prior training. Start-up funds may have an expiration date and can be withdrawn if not used. Additionally, partnerships with non-research focused backgrounds (i.e., DNP-prepared faculty) may serve as collaborators or even co-investigators on research grants. While not researchers themselves, academicians without a PhD with grant funded scholarship also stand to benefit from strong skills in program management and budgeting. Given the intense global competition for research funding, it is crucial to provide education for oncology nurse faculty on managing extramural funding and personnel.¹⁰

What our article aims to add to the literature are details about managing funds and personnel as a new nursing faculty member that may otherwise not be provided in orientation programs. Research and project management represents significant weekly workload as a faculty member, excluding the writing, teaching, and service responsibilities that are

critical for success. The article describes factors to consider when creating a team and project, including budgeting, defining team member roles, leadership styles, and negotiation strategies.

Budgets: a statement of values

"A budget is more than just a series of numbers; it is an embodiment of our values." – Barack Obama

Above all, when new faculty are planning their research or project endeavors you cannot ignore an intentional plan for how you will use your available or future funds. A well-structured budget ensures appropriate allocation of resources such as funds, personnel, and equipment. Sufficient funding empowers new investigators to recruit highly skilled research project professionals (i.e., clinical research coordinators, regulatory analysts for ethics review, etc.), procure vital laboratory or office equipment, and carry out trials or experiments that will lead to a sustained research program.

The budget determines the range of research projects. Adequate funds, including start-up funding for new faculty, allow researchers to pursue hypothesis-driven research, purchase secondary data from a vendor, and establish new business partnerships with clinical or community partners. For example, funds could be used to hire lay navigators to collect data from the community, or to allocate part of a staff nurse's time to a pilot project in a clinical environment. As a student, you might not have had direct experience in allocating funds to your work without the assistance of a mentor. Although it is still possible to seek a mentor's guidance, honing these skills independently can help build a strong reputation as a skilled investigator and leader.

Budget constraints can affect project timelines. However, with adequate funding, timely completion of milestones and improved performance are possible. Insufficient budgets may cause stress and burnout, whereas proper funding can reduce stress, thereby enhancing performance. Ultimately, the budget impacts data collection, analysis, and dissemination. Sufficient funds allow for the allocation of resources and personnel to collect high-quality data, conduct rigorous analysis, and widely disseminate their work through open access publications.

Mastering budgeting enhances your resource allocation, strategic planning, and decision-making abilities. This can boost your efficiency and success. Moreover, budgeting proficiency is not only a valuable skill but can also considerably advance your career in academia. [Table 1](#) emphasizes additional yet important considerations for budgeting (see [Table 2](#)).

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Table 1
Budget considerations for new research faculty.

| | |
|--|--|
| Resource allocation A well-structured budget ensures that resources (funds, personnel, equipment) are allocated appropriately. If an investigator receives adequate funding, they can hire skilled staff, purchase necessary equipment, and conduct experiments effectively. | Collaborations and networking Budgets clearly outline necessary resources and how they are to be allocated Well-funded investigators can attend conferences, collaborate globally, and access shared resources. |
| Research scope and goals A well-planned budget is vital to determine if there is enough financial resources to successfully execute research. | Innovation and creativity Budgets influence the ability to explore innovative or exploratory approaches. Adequate funding encourages creative freedom and may lead to significant breakthroughs |
| Sufficient funds allow investigators to pursue ambitious goals, explore novel hypotheses, and address critical questions. | |
| Time management Restricted budgets may necessitate the rescheduling of tasks or even extending deadlines to accommodate the constraints. | Stress, burnout, turnover prevention Insufficient budgets can lead to stress and burnout With sufficient funding investigators are able to focus more on their research, reducing their worry, which can lead to a positive working environment and retaining staff personnel. |
| Adequate funding allows timely completion of milestones, leading to better career performance. | |
| Quality of data and research outputs Budget affects data collection, analysis, and dissemination. | |
| Sufficient funds enable high-quality data collection, rigorous analysis, and impactful publications. | |

Advancing your academic career: how big of a budget have you managed?

Let us consider the typical career progression for an academic leader. A professor may advance to a director or department chair role. In this position, they are responsible for tasks such as hiring, managing administrative staff, overseeing tuition dollars, and distributing small grants awards. From there, if they impress their faculty peers, they may be nominated to become an associate dean for research or academics. This role entails more responsibilities, including handling larger budgets and additional hiring. Typically, an associate dean within the academic ranks is considered for a deanship. Those in health system roles are less frequently considered for deanships, and those from the private sector rarely.¹¹ Their performance is evaluated by the Provost and higher university leadership, particularly on their ability to manage budgets. See Fig. 1 for how these roles are connected by budgets.

Therefore, your initial experience managing your projects as an assistant professor, or new faculty member at another rank, can demonstrate your ability to handle larger budgets in the future with time and practice. This is true even if you are not considering a leadership position later in your career.

Research budgets

Research proposals are required to have a budget for the funds you will potentially be awarded. These budgets often require a “budget justification” narrative that allows you to provide the necessary detail to why your expenditures are critical to the success of the project. You should always justify all your expenses in a grant proposal, even if they are small. It communicates that you have absolutely thought your project through. Reviewers and the funders staff will use your budget to gauge your understanding of how much your project will cost and what it takes to accomplish the proposed research.

Writing the budget justification

Make sure to provide an adequate description of the expenses and justification for why those expenses are needed in each project period of

the grant. These projections allow you to plan for obstacles such as staffing issues or delays in contract approvals. The justification is critical because significant over-or-underestimating of budgets shows you do not understand the scope of the work. It can count against you in review. If you are entrusted with money, the funder needs to be confident that you will spend it appropriately.

Important terms for budget justifications

Effort/calendar months

The metric for expressing the amount of time key personnel will devote to a specific project may be expressed as a percentage of employment effort or in a unit of calendar months.¹² Resources exist for investigators and budget officers to convert time available in their appointment to calendar months.¹³ Principal investigators must consult with their collaborators and business officers (or mentors) to determine what is an appropriate amount of effort for a given project, balancing other expectations for their professional role.

Fringe benefits

Fringe benefits are expenses directly related to a key personnel's salary and wages, such as retirement, mandatory tax withdrawals, and health insurance.¹⁴ Business officers will typically use a percentage of the key personnel's salary and wages to calculate fringe benefits. Fringe benefits may only be requested in budgets for key personnel and not consultants or subawards.

Indirect costs or (F&A)

Indirect costs are set by the institution which would receive the eventual grant funds. Indirect costs vary per institution and are collected as a general sum to fund the institution's operating expenses (e.g., facility costs, general office supplies and software licenses). Public universities must conduct its activities, including sponsored projects, on a “no profit, no loss” basis (meaning they must break even ... every dollar has purpose).

Leadership competencies for effective management of research programs

Managing research programs in the role of a primary investigator requires skills and competencies in leadership. Many of these skills can be learned through professional development activities, however, some require practical application and refinement to master. New researchers should be familiar with a few core competencies in leadership to effectively manage their research programs and engage in professional development opportunities to enhance these skills.

Christian (2018) described key objectives related to leadership for new researchers including: Creating your personal vision and mission; Cultivating a culture of high performance; Kind decision-making skills; Identifying as the “owner” of the research program objectives and outputs; and Promoting research integrity and maintaining ethical practices.¹⁵ Christian (2018) goes on to outline important leadership practices to achieve these objectives including: Commitment to the values of truthfulness, trust, respect and integrity; Maintain ethical business practices; Communicate expectations of high standards of behaviors from your research team; Remain open-minded and approachable; and Focus on maintaining high quality outputs of your work.

As a scholar, it is often that research staff are hired as part of the team to operationalize the research program. Managing human resources is a critical competent of effective program management. Maintaining the accountability of the research staff whom you have hired is an important component of program management. Ineffective leadership of research teams can increase costs and decrease productivity. By incorporating the

Table 2

Example budget justification template.

Example from Massachusetts Institute of Technology amended for this article (Massachusetts Institute of Technology, 2023).

**University of _____ School of Nursing,
Budget Justification for Cost Proposal**

KEY PERSONNEL:

| <u>Name</u> | <u>Role</u> | <u>Budgeted Person Months</u> |
|-------------|------------------------|-----------------------------------|
| Dr. X | Principal Investigator | 2.4 calendar months (20% effort) |
| Dr. Y | Co-Investigator | 1.20 calendar months (10% effort) |

Dr. X is an expert on _____, and will be responsible for _____.

Dr. Y is an expert on _____, and will be responsible for _____.

OTHER PERSONNEL:

Post-doctoral Fellow: One post-doctoral fellow is budgeted for 4 calendar months (30% effort) in years 1 through 3. The post-doc will be responsible for _____.

Graduate Student Research Assistant(s) (GSRA): One GSRA will devote 12 months to this project in Year 1 and 6 months in Year 2. The GSRA will assist the PI with research on this project. 100% of the GSRA salary is charged to the research project. As of _____, the RA salary is \$_____/month and \$_____/semester for a PhD student.

Note: See Tuition and Fees justification in the Other section below.

Annual inflation is budgeted at 4% for all salaries.

FRINGE BENEFITS:

Fringe Benefits are charged as direct costs and include **Employee Benefits (EB)**. Fringe rates are set by the University of _____ at the current negotiated rates for budgeting purposes:

Here is where your grants and contracts team will include annual percentage rates for fringe benefits. EB is applied to total salary expenses.

OTHER DIRECT COSTS:

Equipment^A: Funds are requested for the following equipment in Year 1 of the budget:

- \$_____ for a _____ for the purpose of _____.

Domestic Travel: Funds are requested for the [PI, Co-I, or RA] to attend one domestic conference per year of this project (for example, to the [Oncology Nursing Society® Annual Congress]) to present research results. The PI intends to take approximately [X] domestic trips per year and support students for X trips per year.

International Travel: Funds are requested for the [PI, Co-I, or RA] to travel to collaborate with colleagues. The PI intends to take approximately _____ international trips per year and support students for _____ trips per year. Travel is anticipated to the following international destinations but may be subject to change: _____.

Materials and Supplies: are budgeted at \$_____ in Year 3, and \$_____ in Year 4. These funds will be used for _____. *Due to the fundamental research nature of the project, material costs are estimated based on the Principal Investigator's (PI's) experience with similar projects. Therefore, a detailed breakdown of materials is unavailable.*

Other:

- **GSRA tuition:**^B For academic year 2024-2025, 9-month tuition is \$ _____. A 4% annual inflation adjustment is applied each year.

Subawards:^C _____ [Institution/University] will be a sub-awardee under this project. The costs associated for the subaward are \$ _____ for the period of ____ through _____. The sub-awardee will be responsible for _____.

Footnotes, Table 2:

- A. Equipment expenses in the US must be greater than \$5,000 and have a useful life for at least one year (National Institutes of Health, 2022). For some wet research labs this may involve cost sharing for lab machines, solutions/reagents, etc. For a dry lab there may not be equipment expenses.
- B. The University may subsidize GRSA tuition during the academic year for extramurally funded projects. In this section of the justification, it would be important to share the percentage that any amount of tuition is subsidized.
- C. A subaward is when you will hire/contract a third party to work on your research. Prior to submitting this award, you will need to create an agreed upon budget (e.g., a quote) that may include the same materials in this justification (e.g., salary, benefits, indirect costs, mileage reimbursement). Your institution may also require a fully signed contract or Purchase Order for the budget justification. not only a quote.

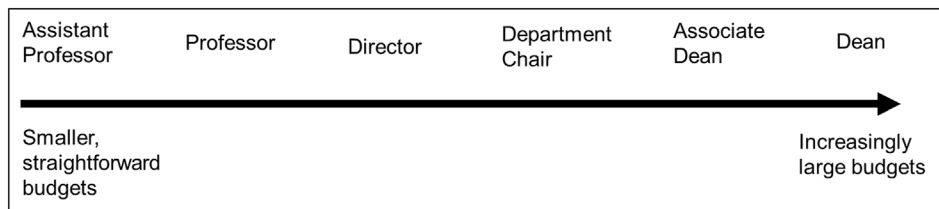


Fig. 1. Academic roles and advancement in relation to complexity and size of budgets managed.

leadership practices Christian (2018) outlined above, researchers stand to produce positive results and demonstrate effective management of research funds which in turn could produce additional funding and promotions in the future.

Complexity leadership

The nature of research requires keen understanding and competence in systems thinking and complexity leadership. Research programs led by academicians exist within a complex academic structure, which can be difficult for new researchers to navigate. Complexity leadership offers insight into effective management of research programs within the complex academic environment and has demonstrated improved team performance, increased adaptability of teams, and promotion of quality outcomes; the three leadership behaviors within complexity leadership including “administrative, adaptive, and enabling.”¹⁶

Administrative leadership refers to the formal hierarchy of an organization. In the case of a research program, the primary investigator holds the administrative authority for ultimate decision-making. It is important to recognize that as the primary investigator of a research program you are ultimately responsible for the research outcomes. As such, researchers must consider their administrative authority and responsibility when making decisions related to budgets, operations, and human resources.

The second leadership component of complexity leadership is adaptability. Adaptability in complexity leadership refers to the ability of the leader to cultivate a culture of readiness and response to changing dynamics of the environment. Adaptability is not the result of any one action by the leader but rather the collective actions that emerge as people interact.¹⁶ In the case of leading research programs, researchers must understand that external influences will cause disruptions to the research program. This could include changes in university research structures, new requirements for compensation of research staff, changes in IRB expectations, or many other significant disruptions. Leading a team that engenders adaptability ensures viability and sustainability of research programs in the face of disruptions.

Lastly, enabling leadership as a component of complexity leadership refers to the need to remain innovative. Enabling leaders connect people from diverse backgrounds together to develop ideas and create solutions. Researchers should consider how to cultivate spaces that allow for creativity and expression of all research team members. When team members feel safe to share ideas, the team is able to create viable solutions in response to external disruptions. Team members are also more effective and efficient at what they do when they are enabled by their leaders to think creatively.

Being an effective leader is an important part of running a robust research program as a researcher. By incorporating the important leadership practices outlined by Christian (2018) and using complexity

leadership as the foundation for working with the research team, researchers are likely to be more successful and ultimately have greater impact.

Conclusions

The purpose of this article is to provide new nurse scientists in faculty roles with detailed guidance on managing funds and personnel, emphasizing the importance of budgeting skills in research project management and career advancement in the nursing academy. Our literature synthesis identifies a gap in the skillsets of new nursing faculty members, particularly those without prior leadership roles, who may lack firsthand experience in managing large budgets and teams, crucial skills not encompassed in existing doctoral training programs. Our narrative review synthesizes budget principles and complex leadership. This knowledge equips new and future nursing faculty to prepare for complex leadership roles. By doing so, they can manage their research projects effectively and make a strong start in their academic careers.

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Declaration of competing interest

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Declaration of generative AI and AI-assisted technologies in the writing process

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