Intramural pilot funding and internal grant reviews increase research capacity at a school of nursing

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ABSTRACT

Background: Strategies for increasing research capacity such as internal funding mechanisms and internal peer reviews for grants are essential for schools of nursing. Although these are documented in the literature, their processes and outcomes have not been reported.

Purpose: The purposes of this study were to describe three protocols for building research capacity at a school of nursing—intramural pilot grants, Specific Aims, Objective Reviews, and mock reviews—and quantify their outcomes.

Methods: We assessed outcome data on 14 intramural pilot grants and 88 external grant applications from 2012 to 2016.

Discussion: Pilot grants produced 16 peer-reviewed articles, 33 presentations, and 11 funded grants. For grant applications that underwent any type of internal review, 41.7% (20/48) received funding compared with 20% (8/40) that did not participate, $p = .03$. Given the resources required to prepare grant applications, internal funding and reviews can enhance return on investment.

Conclusion: Schools of nursing should consider implementing intramural pilot grants and internal review sessions.

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Introduction

Because of the highly competitive environment for securing grant funding, strategies to support and increase research capacity are essential for schools of nursing to develop the next generation of nurse scientists and establish and maintain a funding base for ongoing research. Building the infrastructure to provide such support takes time and resources, but it is essential to sustain an externally funded research program. Components of such infrastructure include, for example, internal funds to support pilot work and enable new and early stage investigators to obtain preliminary data for larger grant applications, statistical consultation, mentoring, and rigorous expert internal review of proposals prior to submission for external funding (Conn, Porter, McDaniel, Rantz, & Maas, 2005; DeMarco, Horowitz, & McCurry, 2005; Froman, Hall, Shah, Bernstein, & Galloway, 2003; Kulage et al., 2013, 2015). Such expert peer review helps ensure research aims are clearly articulated and feasible, provide new insights, and identify areas for improvement, ultimately increasing the likelihood of funding.

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To address the critical need for research infrastructure, in 2012, our School launched an intramural pilot grant program open to postdoctoral fellows and faculty at all levels, but with a preference for funding junior faculty and National Institutes of Health (NIH)—defined early stage investigators (National Institutes of Health Office of Extramural Research, 2016c). At the same time, the School's Office of Scholarship and Research Development (OSR) began coordinating a two-part internal review process for planned grant applications consisting of a Specific Objectives and Aims Review (SOAR) followed by a formal mock review. These sessions are mandatory for predoctoral students and strongly encouraged for all postdoctoral fellows and faculty submitting grant applications for internal (e.g., intramural pilot grant) or external (e.g., NIH) sources of funding. These initiatives have evolved and been refined over time to enhance their ongoing productivity and usefulness.

Although a simple Google Internet search and reviews of school Web sites confirm that numerous research-intensive schools of nursing provide opportunities for internal pilot funds for faculty to launch larger research projects, we are not aware of any reports in the nursing literature that describe the systematic process or quantify long-term outcomes (e.g., subsequent rates of funding) of such pilot projects. Similarly, although the use of mock reviews by schools of nursing is evident from Internet searches and has been mentioned in the nursing literature as a way to strengthen grant applications (Conn et al., 2005; DeMarco et al., 2005; Howland et al., 2008; Kulage et al., 2013, 2015), a specific, detailed process has not been described and, to our knowledge, in only two cases have any outcomes been provided but in very limited detail (Howland et al., 2008; Kulage et al., 2013). To inform schools of nursing seeking ways to increase their scholarly capacity, we describe the detailed process for three protocols for building research infrastructure and capacity—the intramural pilot grant program, the SOAR session, and the mock review—and quantify their outcomes over a 5-year period.

Setting

The protocols were developed and utilized in a school of nursing at a research-intensive academic health center in a large, urban community in the Northeast region of the United States. The School's annual sponsored project funding portfolio averages 50 active research, training, and career development grants with budgets of approximately $7 million and a submission volume of around 60 applications. The School has 28 doctorally prepared faculty, associate research scientists, and postdoctoral fellows actively seeking research funding, and eight doctoral students in the past 5 years have submitted federal grant applications to support their dissertation work.

Intramural Pilot Grant Protocol

Purpose, Requirements, and Expectations

The purpose of the intramural pilot grant program is to fund small research projects to collect preliminary data or support other scholarly work for grant preparation and submission. Up to three 1-year pilot grants are available annually with a maximum budget of $10,000 each. Applicants must have a doctoral degree and be a school of nursing faculty member, associate research scientist, or postdoctoral fellow. They must identify an external source for future significant funding (i.e., $\geq$ $50,000) that will be pursued subsequent to the pilot work, including an agency (e.g., NIH, foundation, professional organization) and a targeted opportunity (e.g., request for applications, program announcement). Awardees are required to submit interim and final progress reports, make a formal presentation to faculty and students on the results, and disseminate findings via a publishable manuscript, abstract, and/or other professional conference presentation.

Funding Priorities

Priority for intramural pilot grants is first given to individuals beginning their research careers, followed by faculty members who have had externally funded research but have identified a promising area that has good potential for continued external funding and requires the collection of preliminary data. Pilot projects can either contribute to the aims and priorities of one of the School's research centers or represent research within the principal investigator (PI)'s scope of expertise but beyond center aims. In either case, the project should enhance and expand the applicant's professional portfolio and career development. Other funding priorities include projects that enhance collaboration among nursing faculty members, particularly clinical and research scholars, and those that incorporate interdisciplinary and translational research.

Submission Procedure

Applicants are encouraged to work with the School's Grants Management Office to prepare the budget and the OSR to develop the proposal. This is especially important if the project includes any "to be hired" personnel or part-time research assistants to ensure the proper salary level or rate of pay is established. At least 2 weeks prior to submission, applicants are required to participate in a SOAR. All applications must be submitted through the School's intranet portal where they are stored on a secure, dedicated network. The site is password protected and requires that applicants log in with their university credentials. Applications can only be uploaded once, after which no further changes are allowed.