Department-Centered Research Administration: Building a General Research Administrative Support Program (GRASP)

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ABSTRACT

The nation's leading academic hospitals aspire to being the leader in medical research, but as the role of medical research grows in size and complexity, many departments are left without proper research support or oversight. This research explored the need for a research administrative support program to resolve many of the issues facing faculty researchers in the 21st century. This research resulted in a comprehensive departmental program design for the General Research Administrative Support Program (GRASP) within the Department of Pediatrics at a prominent Midwestern pediatric hospital. The program fosters ongoing communication among all research centers, the department, and the researcher. It will maintain a viable research effort by developing a strategic plan that adheres to the institution's long-term research objectives. The program will create an interactive website that contains educational resources, a research toolkit, and announcements of new funding opportunities. The program office will update faculty regularly on issues with compliance to keep researchers abreast of trends in funded research and requirements, and will create a research mentorship program for new faculty members. The General Research Administrative Support Program (GRASP) will standardize the research support system to foster consistent and reliable administrative support for the modern academic pediatric researcher.



INTRODUCTION

A recent decline in the number of clinical and translational researchers has been attributed to a reduction in available funding, an increase in demands affecting the work-life balance, and a lack of training in research development and academia (Heimburger et al., 2015; Johnson et al., 2010; Libby et al., 2016). Thompson et al. (1999) analyzed the long-term strategic plan for major freestanding pediatric hospitals across the United States and drew conclusions on how physicians and their workplace requirements would fare in the future. Almost 20 years ago, a study found that 35% of pediatric hospital executives believed that their hospitals "could not survive in its present form for the next ten years" (Thompson et al., 1999). Today, funding for medical research in Academic Medical Centers (AMCs) is quickly dwindling, "rendering the current structure of the biomedical research enterprise unsustainable" (Campbell, 2016). Given the current economic climate, the operational model of research administration must change if the stability of academic institutions is to be maintained. In fact, many believe that freestanding hospitals will decline in the coming years to facilities that merge the academic and professional worlds of medicine by fully combining pediatric academic hospitals into comprehensive academic health science centers (Warkentin & Frewen, 2007). Due to

technological and economic changes in the last few years, the traditional research administration organizational model is insufficient for the modern faculty researcher (Droegemeier et al., 2017; Stewart-Cole, 2010). Most AMCs seek to provide research administrators with the tools necessary to ensure faculty concentration on scientific research rather than paperwork and bureaucracy (Rutherford & Langley, 2007). **Background**

Several attempts have been made (Bland et al., 2002; Bland et al., 2005; Creswell, 1985; Dundar & Lewis, 1998; Finkelstein, 1984) to measure faculty research productivity and to analyze those individual, institutional, and leadership attributes that lead to greater success. Two of the earlier models, Finkelstein (1984) and Creswell (1985), found that faculty who acted as role models, published earlier in their careers, and kept in close contact with disciplinary colleagues were often more successful than their counterparts. Later, Dundar and Lewis (1998) found that individual attributes combined with institutional attributes, such as support systems and administrative assistance, were important predictors of faculty research productivity. In 2002 and again in 2005, Bland et al. reported that research faculty needed a systematic and individualized approach to research administration and support. Time and again, the previous



literature has shown that frequent communication and accessible resources are predictive of faculty research productivity, but the methods for promoting research faculty development on an individual level are still relatively unclear.

Without proper administration, research can quickly become unstructured and disorganized. As a result, faculty members are either dissuaded from pursuing research due to the administrative chaos, or they waste weeks on grant applications that will never be accepted because the application is incomplete or inappropriate for the funding agency. This disorder can cause the reputation of an entire department to deteriorate not only within the institution, but also with external collaborators, donor relations, and funding agencies. Moreover, consistent failure to earn research funding can cause group cynicism and greatly reduce the chances of future success. The study described in this article analyzed the effectiveness of the Central Research Office (CRO) and made recommendations for an innovative departmental research support program to increase the productivity and quality of scientific research.

Problems with the Traditional System

Research administration represents a complex system of departments and personnel who interact with federal, state, and private sponsors; the academic and scientific communities; and all employees of

their organization and community. Due to technological and economic changes in the last century, the traditional research administration organizational model is insufficient for the modern faculty researcher. The Stewart-Cole (2010) study concluded that faculty members need more education and personalized attention. Sheridan et al. (2017) concluded that a positive climate within a faculty member's department is associated with "significantly greater productivity for all faculty" (p. 587). These findings suggest that administrators should strive to better understand the limitations and motivations of the faculty researchers at individual and department levels, and that both parties could show improvement with more personalized attention and clearer communication efforts.

Research Objectives

This research explored the quality and effectiveness of the Central Research Office (CRO) within the Department of Pediatrics at a prominent Midwestern academic pediatric hospital; and then prepared recommendations to implement a departmental research support program to the mutual benefit of the individual faculty researchers, the department, and the organization. The resulting program design reflects the mission and strategic goals of the hospital and addresses the long-term needs of the department.



This research examined current research support to answer the following questions:

- (1) What is the relationship between demographic characteristics and participation in research?
- (2) To what extent do research faculty and staff members attribute their research advancement, selfconfidence, and enhanced knowledge to the research administration program?
- (3) What relationship, if any, exists between the level of institutional research support and the number of faculty and staff actively involved in research?
- (4) What possible reasons, if any, might research faculty and staff members have for not participating in research?

METHODS

In this research a needs assessment survey was conducted to measure attitudes toward and satisfaction with the CRO and to document any needs within the division. Demographic data were collected to determine whether or not differences existed among research groups. Next, data were collected on the perceptions of researchers regarding the CRO to determine their degree of satisfaction with the research administrative process, research educational materials, and institutional research priorities. There were also questions to determine the perceived value of research administrative support within the organization. Each survey question could be directly linked to one of the four main research questions for the needs assessment. Table 1 illustrates the type of data collected with each survey question.

Purpose of	Research	Survey	Research
Question	Focus	Question(s)	Question
Demographic Data	Determine if differences exist among groups	2, 3, 4, 5, 6	1
Perceptions of Researchers	Determine degree of satisfaction with Research Administrative Process	7, 8, 10, 11, 16, 19	3
Perceptions of Researchers	Determine degree of satisfaction with research educational materials	9, 10, 11, 19	3
Perceptions of Researchers	Determine degree of satisfaction with institutional research priorities	12, 13, 14, 15, 17, 18,	4
Perceptions of Researchers	Determine perceived value of research administrative support	2-20	2, 3, 4

Purpose and Research Focus of All Survey Questions



Table 1

Survey questions were designed to learn the weaknesses of the CRO, and what areas needed immediate attention. Faculty and staff members were able to communicate which aspects of the program were most important or least important to them according to how much time, effort, and money was spent in each process. This allowed the researcher to focus the recommended program design on those aspects of the program that were most desirable. Each question allowed the researcher to evaluate the importance of each service offered, which allowed the proper allocation of funds in the final program budget and design.

Data Collection Procedures

A web-based survey was distributed to approximately thirty individuals who had a connection with the division's research initiative and was designed to answer the specific research questions for the needs assessment. The target population included faculty members, research coordinators, residents, fellows, nurses, and staff. The target population was divided into four groups: (1) expert Principal Investigators (PIs) experienced in research development and execution; (2) novice faculty with limited experience in research; (3) faculty, fellows, and other new learners; and (4) new faculty, residents, students, nurses, and staff with no experience. Surveys were distributed to all four groups within the target population.

The survey was distributed to respondents via their organizational email address. The electronic email notification provided a web-link to the informed consent form for the research project and a link to the internet website where the survey could be completed online. The internet survey was the best option for this study since all respondents had internet access and electronic email address provided through their employer. Employing the internet survey method was the preferred method because it allowed for quick returns of completed surveys, supported computer-aided data collection, and saved money for the researcher. The surveys were collected within that same month for analysis. The researcher expected twenty-five of the thirty surveys to be returned.

Data Processing and Analysis Procedures

The surveys were distributed using the internet survey company SurveyMonkey[®] at www.surveymonkey.com, an online survey distribution company. All data from the survey were exported as a commaseparated value data within Microsoft Excel format for the researcher. All data collection and analysis was completed using SurveyMonkey[®]'s online data analysis tools. All multiple-choice and rating-scale answers questions were analyzed and presented in percentage form as to how many respondents chose each available



option. For multiple-choice questions, the percentage of people who answered a certain way was presented in a chart in the final needs assessment report. All matrix questions were analyzed using a weighted average to show what answer was chosen most often. For the multiple-choice and rating-scale survey questions, the answer that was chosen most frequently and had the highest percentage of responses was deemed to be the correct answer. Any questions that received more than one answer with the same number of responses were considered a neutral response, and both answers were considered in the analysis.

A pilot study was conducted to determine the validity and reliability of the survey instrument under realistic conditions. A sample of researcher members, outside of the target division, were chosen to pilot the survey. A minimum of one person from each of the four categories of the target population was asked to review the survey. Each respondent agreed that the survey was clear and concise. The surveys were reliable since the responses were directly from those investigators and research staff who would benefit from the program. The validity of the surveys was confirmed as the survey questions were based on similar research in the field of research administration.

This research was designed to determine the requirements of a mid-size

pediatric division for research administration and the creation of a program to meet those needs. Methodological limitations for this research included the number of survey participants and lack of prior research studies on this topic within the relevant institution. The survey sample size was limited to the number of faculty members within the representative division who currently performed, or wished to perform, research in addition to their administrative and clinical duties within the hospital. No prior research had been completed on this topic within the study site institution, and little research surrounding this topic was available to the public. This research was conducted in the months of January, February, and March of 2015 and was limited to that period.

Delimitations for this research included the choice of study site as a mid-size division within a pediatric academic hospital in the Midwestern United States. The study was limited to participants in pediatric neurological research in the states of Missouri and Kansas. The results could be generalizable to: (a) physicians in a pediatric research hospital, (b) in the Midwest, and (c) whose research pertains to the field of pediatric neurology.

RESULTS

Of the 30 individuals who were contacted, only 17, or 56.67%, elected to take the survey. The majority of respondants



were clinical staff members (88.24%) and were under the age of 40 (64.71%). The gender gap was not significant. While the majority of respondents (64.71%) had been employed with the hospital for less than five years, every respondent had had identical training and education on research administration. All survey participants were currently involved with research projects at the hospital, and yet a combined 58.82% indicated that they were either not familiar enough with the research support programs, or were not sure they could evaluate them fairly. Responses also indicated that the areas of 'Finding Funding' and 'Submitting Proposals' most needed improvement.



Figure 1. Faculty and Staff Members' Satisfaction with Various Aspects of the Research Administrative Program

Respondents were asked to rate their satisfaction with various aspects of the Research Administrative Program. An overwhelming 69.23% of the respondents felt neutral, dissatisfied, or very dissatisfied with the entire span of research administration. Half (50%) indicated that educational opportunities provided by the research program were average. The majority said that they only access the informational website monthly or yearly, and 20% had never accessed the research website. The respondents tied (42.86% each) in responding that they usually find what they need and they rarely find what they need on the research website. No respondents indicated that they always find what they need. Collectively, 71.11% of participants were dissatisfied or neutral with the CRO.

Survey participants reported that overall institutional support for research was high, with half (50%) responding that the institution was somewhat supportive;



28.57%, supportive; and 21.43%, fully supportive of research. No respondents said that the institution was not supportive of research. Overall, this was a strong finding and suggested that the institution is very supportive of research. At the time the survey was distributed, the target division was heavily involved in recruitment efforts. With this consideration in mind, an overwhelming 80% of survey respondents said they considered research activity potential when interviewing a new faculty member. When asked, the majority (66.67%) of respondents felt that the research priorities of the institution were established as part of the overall planning of the hospital. Also, the majority (53.33%) said that the research mission was important, but less important than the academic role. Over half of the respondents (57.14%) indicated that it was somewhat unlikely that institutional research priorities were broadly known among faculty. The majority (46.67%) also said that it was very important, extremely important (33.33%), or moderately important (20%) to have overall division research priorities. Overall, 62.50% of faculty supported institutional research priorities.







Next, participants were asked if they felt more confident in their ability to submit a grant proposal. The majority (93.75%) answered either 'no', they did not feel more confident, or 'no difference' in their level of confidence as a result of the research administrative programs. Only one respondent felt that the research administrative programs made them more confident.





Do you feel more confident in your ability to submit a grant proposal as a result of your institution's research administrative programs?

Figure 3. Degree to which Faculty and Staff Members Attribute Their Confidence in Submitting a Grant Proposal as a Direct Result of the Institution's Research Administrative Programs.

The most striking survey result was that a combined 93.75% of respondents did not feel confident in their ability to submit a grant proposal as a result of the institution's research administrative programs. Collectively, questions regarding the perceived value of the research program showed that 70.17% were dissatisfied or neutral regarding aspects of the CRO. The most surprising results included that a combined 85.72% of respondents believed that it was, to some degree, unlikely that faculty were aware of institutional research priorities. The most useful results from the survey included the finding that the areas of 'identifying research funding' and 'submitting funding proposals' were in greatest need of improvement. Together these data illustrated an immense need to make research support more applicable and approachable for researchers, especially for pre-award activities.

DISCUSSION

Limitations

The purpose of this research was to create a generalizable research program. With this in mind, all issues of research ethics and bioethics were excluded. To make the research more universal, the researcher also endeavored to exclude any detailed sponsor-specific information, federal management requirements, arguments for intellectual property, and political details on legislative processes that may affect the research process.

Recommended Final Program Design

The researcher suggested implementation of a new research administrative support system at the department and division level. The General Research Administrative Support Program (GRASP) would advance pediatric research by providing administrative research



support services, including comprehensive proposal development, to support researchers in their commitment to transforming the lives of kids in the community and around the world. GRASP would strive to be a national leader recognized for creative advances in research administration. GRASP activities would include the creation and maintenance of standardized research policies for the department, an interactive research website, a research mentorship program, and an Endowed Research Lectureship Series. GRASP services would include consultation on strategic planning and project management planning, collaborative proposal submission and post-award support, assistance in identifying funding opportunities, and the facilitation of ongoing communication among research centres, the division, and the individual researcher.

GRASP managers would collaborate with PIs in planning for research funding proposals and applications for both external and internal funding opportunities as they arise. The program would aid in comprehensive proposal development and project management support and ensure that PIs had an achievable project plan and schedule that aligned with the division's greater research portfolio goals. Program personnel would help research teams integrate information from multiple sources to ensure that research proposals met the necessary requirements of funding agencies. The program also would build and maintain relationships with collaborators, advocacy groups, donors, and funding agencies to ensure synergy. And lastly, the program would ensure that all projects and proposals were executed successfully and completely within timeframes to meet research objectives.

GRASP Program Objective. GRASP is a comprehensive research administrative support program that would support a Principal Investigator and the study team from brilliant idea through proposal submission to project closure. Specific program objectives would include the following. (1) To maintain a viable research effort by developing a strategic plan that outlines research portfolio goals of a division within the Department of Pediatrics. (2) To develop a research support program that fosters ongoing communication among research centers, the department, and the individual researcher. (3) To create an interactive website that contains educational resources, a research toolkit and examples, funding opportunities and updates, and departmental research priorities to increase collaborative proposal submissions with other institutions. (4) To update faculty regularly on issues with compliance to keep researchers abreast of trends in funded research and requirements. (5) To create a research mentorship program for new faculty



members. (6) To standardize protocols for consistent support in proposal writing based on the individual needs of the researcher while adhering to reasonable internal controls and deadlines for submissions.

If program operations are successful, the intended beneficiaries would have administrative support through every section of their research project throughout their career at the hospital. Research and project management resources and tools would be available for all research team members. PIs would have a single point of contact for questions and assistance in the development and management of project schedules, resources, and deliverables. With a coordinated research effort, a division within the Department of Pediatrics could experience an elevated reputation in research development at the community, national, regional, and international levels. This would increase income-generating capacities by attracting future resident and fellow candidates with a strong interest in medical research, ensuring the future successes of the department.

Administrative Research Program Personnel. GRASP would consist of a Research Administration Manager at the department level, and several Advanced Clinical Research Coordinators placed at the division level. The Manager would be involved with the strategic planning and development of research initiatives within the division, and would also coordinate the educational aspects of the division. The Advanced Clinical Research Coordinators would provide the medical expertise to GRASP by coordinating clinical research projects, including recruiting subjects into the project, scheduling study visits, screening subjects, obtaining informed consent, and conducting/overseeing study visits/procedures.

The Research Administration Manager is responsible for providing coordination of departmental research in an efficient, safe, and timely manner that complies with all applicable institutional and federal regulations. This individual would also provide the overall management of research education for individuals involved in any aspect or type of research. Responsibilities would involve planning, development, implementation, teaching, and ongoing improvement of research development. The GRASP manager would provide onboarding of employees new to research, monitor ongoing research projects, and support study team members with ongoing administrative needs. The manager would evaluate research and create written, technical scientific documentation for all reports, projects, and publications.

The Advanced Clinical Research Coordinators would be responsible for coordinating and performing administrative functions for the division related to both the basic and clinical



research programs, to include physical and personnel resource utilization, preparation and maintenance of regulatory documents pertaining to research involving human subjects, coordination of data associated with clinical trials (including database management, research billing, auditing and reporting), and assistance to division faculty in the preparation of grants and contracts associated with clinical and translational research.

Research Support Services. Research support services provided by GRASP would include: strategic planning and project management consultation, proposal submission and post-award support, funding identification assistance, and communication between research centers. The combination of these services would allow faculty to feel more connected with the existing research support system, and have individual support on a daily or asneeded basis. Strategic planning and project management consultations would allow the PI to examine their project from start to finish, explore the potential risks and mitigation strategies, and plan the project to ensure success. Proposal submission support services would include assistance in gathering application paperwork and clearance documents, navigating the RFP, and copyediting services for the final research plan. Post-award support would be mainly provided by the existing research support programs; however, GRASP would

help with communication and recordkeeping.

Program Policies and Manuals. All policies should have a title, effective date, purpose, scope, definitions and any exceptions (if necessary); a notation for any related policies; references; and a listing of the policy content owner and reviewers. All policies should follow institutional formatting guidelines and would be approved as a department-specific policy. GRASP would include the following baseline policies: (1) Overview of the General Research Administrative Support Program; (2) Proposal Development and Submission; (3) Research Compliance; (4) Award Acceptance and Initiation; and (5) Post-Award Administration, Reporting, and Award Closeout. All policies should note the review period of every three years unless required more frequently by regulatory requirements.

Research Toolkit. In addition to a detailed research program policy, a detailed procedural manual would be provided by GRASP to PIs in the format of a Research Toolkit designed to aid the researcher through the beginning stages of research development through proposal submission and beyond. The Research Toolkit would allow the intended beneficiaries to have a single point of reference for questions and assistance in the development and management of project schedules, resources, and deliverables. Each chapter



would contain an introduction to the broad topic, individual checklists, and a summary sheet with vocabulary, tools and examples pertaining to that chapter's topic. The Toolkit would reflect general industry standards and provide common guidance and education surrounding research development and project management. The Research Toolkit would be available on the research website electronically and in a hardcopy available by request to faculty members.

Program Website. One study proved that an online interactive website "proved to be an effective orientation tool for researchers" and was highly recommended as a means to increase communication and efficiency (Glurich & Fleisner, 2010). This interactive website provided research development resources, regulatory policies, a peer-review function, funding agency forms, and navigation through the funding process (Glurich & Fleisner, 2010). The GRASP program website would therefore include updates on funding opportunities, news on research accomplishments within the division, and instructional references for every stage of the research process. The website would also include a series of short videos on the significance of each form a researcher would be asked to complete, how to fill the form out, and what would happen to the form after it was submitted. This would help new researchers navigate all of the complex research forms that come

across their desk over the duration of their grant.

Mentorship Program. The Federation of Pediatric Organizations (FOPO) published a Strategic Plan with "Six Strategic Initiatives to Enhance Child Health" (Sectish, Bartholomew, & Slaw, 2008). The first recommended strategic initiative included the development of a leadership academy, which was the easiest of the six proposed initiatives and held a medium overall strategic mission impact for the institution (Sectish, Bartholomew, & Slaw, 2008). The GRASP mentorship program would mirror these recommendations and ensure that all faculty have an established-career researcher to contact for further assistance. Inexperienced faculty would submit an application to the GRASP program office stating the areas in which they needed the most assistance. Experienced faculty would also submit an application which showed their strengths as a researcher and their willingness to commit to the mentorship program. GRASP would also appoint a highly experienced faculty member as the Director of the Mentorship Program to help with pairing mentors with their mentees, and with recruitment for program participants. Mentees would be free to contact the Director of the Mentorship Program if they had difficulties with their appointed Mentor.

Endowed Research Lectureship Series. An Endowed Lectureship Series would be



promoted to sponsor distinguished research leaders from around the country to give a lecture and interact with faculty and students. Fund income would be used to provide for the expense of bringing these speakers to the division. A minimum gift of \$500,000 would be necessary to establish an Endowed Lectureship Series. The lectures would start with internal speakers until funds were provided to host national or international speakers. The lectures would occur once a month in the hospital's main auditorium. All lectures would be videorecorded and posted on the research website for later viewing.

CONCLUSION

As the role of medical research grows in size and complexity, many hospital departments are left without proper research support or oversight. Without proper administrative support in place to guide researchers, promising research is often likely to deteriorate or fail. This study illustrated several gaps in the traditional Central Research Office. In order to ensure that faculty, coordinators, residents, nurses, and staff are provided the support they need througout the research process, a new division-level of research support is needed to support faculty researchers in the 21st century.

The General Research Administrative Support Program (GRASP) will foster ongoing communication among research centers, the overall department, and the individual researcher. It will maintain a viable research effort by developing a strategic plan that adheres to the institution's long-term research objectives. GRASP will create an interactive website that contains educational resources, a research instructional toolkit, and announcements of new funding opportunities to increase collaborative proposal submissions. The program office will update faculty regularly on issues with compliance to keep researchers abreast of trends in funded research and requirements and will create a research mentorship program for new faculty members. GRASP will standardize the research support system to foster consistent and reliable administrative support for the modern academic pediatric researcher.



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