



Fostering Young Investigators Pharmacy Resident Practice-Based Research Grant

Administered by the
American Society of Health-System Pharmacists Research and Education Foundation

Application Instructions

These instructions should be followed carefully. Only after all the requested information has been received will an application be considered complete and eligible for evaluation by the ASHP Foundation's Grants Review Panel. If the application is incomplete or incorrectly prepared, it may be returned without review or evaluation may be delayed until the next application period, if applicable.

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**APPLICATIONS THAT DO NOT STRICTLY COMPLY WITH THE
APPLICATION INSTRUCTIONS WILL BE
RETURNED WITHOUT REVIEW.**



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Fostering Young Investigators Tip

For most new investigators, the entire grant submission process can be overwhelming. However, the quality of the grant application will have a major impact on funding decisions. Organization is critical to the process. As you prepare to apply through this grant program, you should immediately read the entire application and make a list of each step required for completion of the application. This should be followed by a discussion between you and the senior investigator that focuses on a timeline for development of the application. Plan adequate time to develop your application as quality research questions, objectives and methods take significant time to develop and refine.

Garnering institutional support and the grants administration process also take significant amounts of time and should be factored into the grant submission timeline. Departmental and institutional support for the research are critical to the project's success. Most studies require some level of logistical support from within the researcher's department and the institution. Practice research almost always benefits from multidisciplinary involvement. As the methods for the proposed study are being developed, the research team should assess each component of the methods to determine the impact on different departments within the institution. After this assessment has been completed, an organized plan for gaining support from each of the involved departments should be developed. This plan should also address logistical issues that are critical to execution of the study. For example, will the pharmacists need education regarding the protocol? Do other departments require review by their departmental research committee prior to IRB submission? If medical records review is involved, have all HIPAA implications been addressed with the medical records department prior to the IRB submission? The study methods should be revised as required to reflect the logistics discussions that occur. Along with positively impacting execution of the study, these efforts to engage other departments will be beneficial as the study is being reviewed by the IRB and by the institution's office of grants administration. Include letters of support from key departments as appendices to your application.

The National Institute for Allergy and Infectious Diseases [tutorial on grant writing](#) provides valuable information for any grant writer.

See the following articles for an in-depth discussion of research project management and writing grants:

Weber, RJ, and Cobaugh, DJ. **Developing and executing an effective research plan.** Originally published in *Am J Health-Syst Pharm.* 2008; 65:2058-2065. © 2008, American Society of Health-System Pharmacists, Inc. All rights reserved. Posted with permission.

Devine, EB. **The art of obtaining grants.** Originally published in *Am J Health-Syst Pharm.* 2009; 66:580-7. © 2009, American Society of Health-System Pharmacists, Inc. All rights reserved. Posted with permission.

Remember, the quality of the grant application can be enhanced greatly by seeking review by experienced researchers who are not involved with the study.

I. GRANT PROGRAM DESCRIPTION

The ASHP Research and Education Foundation (ASHP Foundation) is offering a research grant program that will support practice-based research in medication use conducted by residents in ASHP-accredited pharmacy residency programs or by residents in pharmacy residency programs that have submitted an application for ASHP accreditation. Practice-based research affects a wide



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range of medication-use topics including patient education; patient outcomes and effectiveness of medication therapy; health care quality; medication use in minority, elderly and other special populations; medication costs and financing; program evaluations; and access to medications. A secondary goal of the program is to develop pharmacy residents' research skills while fostering development of mentoring relationships with more experienced senior investigators. The proposed practice-based research must be consistent with the vision, mission and strategic priorities of the ASHP Foundation.

Vision

Patients receiving medication therapy in our nation's hospitals and health systems will receive care in a safe and efficient manner, leading to optimal medication outcomes.

Mission

The mission of the ASHP Foundation is to improve the health and well being of patients in hospitals and health systems through appropriate, safe and effective medication use. The Foundation provides leadership and conducts education and research activities that foster the coordination of interdisciplinary medication management leading to optimal patient outcomes. Emphasis is given to programs that will have a major impact on advancing pharmacy practice in hospitals and health systems, thereby improving public health.

Strategic Priorities

- Design and study of safe and effective medication-use systems
- Advancement of optimal patient medication outcomes
- Expansion of pharmacists' direct patient care and leadership roles

Applications for this research grant program are required to include: (1) measurable objectives that relate to practice-based research in medication use; (2) rigorous research methods that support the study objectives; (3) mentoring activities between a senior investigator/advisor and the pharmacy resident; (4) a description of the impact that the results of the project will have on medication use; (5) a description of the potential to generalize findings to other health care facilities; (6) interdisciplinary collaboration; and (7) an organized plan for prudent use of grant funds. Preference will be given to research projects with the potential to yield strong scientific evidence that can be applied to practice.

National healthcare priorities are one potential source of study questions. The [ASHP Health System Pharmacy 2015 Initiative](#) goals and objectives provide guidance on priorities for the improvement of pharmacy practice in health systems. The [Core Measures](#) and [National Patient Safety Goals](#) from The Joint Commission are also potential sources that can be used to develop practice-based research questions.

Submission of studies that evaluate the pharmacy practice model in hospitals and health systems - such as the utilization of technology, role delineation changes for the pharmacists and non-pharmacists, or improving the patient care opportunities for pharmacists – is encouraged.



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Applicants should also consider other ASHP policy documents and initiatives when selecting a research question. For example, the [ASHP Statement on Pharmacy Services to the Emergency Department](#) identifies potential research areas. See ASHP's [Practice and Policy Resource Page](#) for complete information on ASHP's policy documents.

In June 2007, ASHP and the ASHP Research and Education Foundation hosted a Continuity of Care in Medication Use Summit. The [executive summary](#) of the summit, which can be found on the ASHP Foundation Web site, contains a research agenda related to the use of patient-centered personal medicine lists.

II. ELIGIBILITY

- The proposed research must involve practice-based research in medication use that is conducted by a pharmacy resident in an ASHP-accredited residency program or a program that has applied for ASHP residency accreditation.
- A senior investigator must participate on the research team as a mentor/advisor. In the application process and grant progress reports, evidence must be included regarding the support and involvement of the senior investigator. For this grant program, the senior investigator assumes responsibility for compliance with all requirements of the grant program. The senior investigator does not have to be a pharmacist. Applicants are strongly encouraged to include an individual with a strong research track record as the senior investigator. (Consideration should be given to allocating a portion of the budget to support biostatistics consultation.)
- The proposed research must be submitted to an institutional review board (IRB) for approval. Evidence of IRB approval must be provided to the ASHP Foundation upon acceptance of the grant award. Grant funds will not be disbursed until evidence of IRB approval, or exemption from review, has been received.

Fostering Young Investigators Tip

Institutional Review Board review and approval are imperative to the ethical conduct of research, to the protection of human subjects and to ensure compliance with federal regulations governing research. In the early stages of project planning, the investigators should incorporate IRB processes into the research timeline. This provides a good opportunity for the resident to become acquainted with the IRB's procedures and review requirements. The ASHP Foundation requires evidence of IRB approval before it funds research projects and a large number of scientific journals require similar evidence prior to publication. See the [Human Subjects Protections](#) section of the ASHP Foundation's [Research Resource Center](#) for a review of the history of IRBs and their role in overseeing research by Wesley G. Byerly, Pharm.D.

The Department of Health and Human Services (DHHS) provides information on [federal regulations regarding IRBs](#).

One of the questions that investigators raise frequently is what type of review – expedited or full – will occur or if a study will be exempted from review. The [Code of Federal Regulations §46.101\(b\)](#) contains information on those types of studies that are exempted from review.



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The DHHS Web site also houses the [federal regulations](#) that address expedited review and a [list of research categories](#) that the Secretary of DHHS has determined may be reviewed through an expedited review procedure.

See the following article for an in-depth discussion of institutional review boards:
Byerly, WG. **Working with the institutional review board**. Originally published in *Am J Health-Syst Pharm*. 2009; 66: 176-84. © 2009, American Society of Health-System Pharmacists, Inc. All rights reserved. Posted with permission.

- Individuals who previously served as a principal investigator on any ASHP Foundation grant are eligible to apply if all work, including journal submission of the study findings, on the previously funded research is complete. If a tie score occurs during the grant review process, the grant will be awarded to the applicant(s) who has/have not received a grant from the ASHP Foundation previously.
- The ASHP Foundation only makes grants to tax-exempt institutions or agencies in the United States of America.
- The research must comply with the [NIH Policy and Guidelines on the Inclusion of Women and Minorities as Subjects in Clinical Research](#) that were amended in October, 2001.
- The research must comply with the [NIH Policy and Guidelines On the Inclusion of Children As Participants in Research Involving Human Subjects](#).
- The study timeline should not exceed 18 months from project initiation.

III. FUNDING INFORMATION

Up to six \$5,000 grants will be awarded. Grants will be awarded to pharmacy residents to provide funding for specific practice-based research related to medication use and are not intended for long-term support of research programs. Facilities and administrative cost rates that do not exceed 8% of the total requested budget are allowed.

Funds may not be applied to:

- Resident salaries and/or benefits;
- Ongoing general operating expenses and/or existing deficits;
- Purchase of permanent equipment, facilities, or software, or other capital costs;
- Endowment contributions; and
- Stipends or loans.

Funding is generally available for:

- Salary support for study personnel including biostatisticians;



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- Institutional review board fees;
- Consumable supplies and services;
- Travel essential to the conduct of the proposed project;
- Patient expenses/reimbursement;
- Travel to present project findings in the range of \$1,000 to \$1,500 per project; and
- Facilities and administrative cost rates that do not exceed 8% of the total direct costs.

Grants will be awarded to individuals and the funds will be disbursed directly to the sponsoring institution for administration.

IV. GRANT RECIPIENT RESPONSIBILITIES

- The grant period of activity will begin upon notice of grant award by the ASHP Foundation and will expire 18 months after this initial notification.
- Following initial disbursement of funds, the grantees must submit Quarterly Research Reports to the ASHP Foundation that address:

Progress toward completion of activities included on the study timeline for the quarter in question;

Any protocol modifications and documentation of IRB review and approval of such modifications; and

A summary of all adverse events associated with execution of the study during the quarter in question and documentation of IRB review of such adverse events.

- Within 60 days of study completion, the grantees must submit a Final Research Report to the ASHP Foundation. This report must include:

A summary of the study results including statistical analysis if applicable;

Preliminary conclusions;

A summary of all adverse events associated with execution of the study and documentation of IRB review of such adverse events;

A summary of all protocol modifications and documentation of IRB review and approval of such modifications; and

Specific plans for presentation and publication of the study findings.

- Within 60 days of submission of the Final Research Report, the grantees must submit a



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Final Financial Report. This report must include a complete and full accounting of the expenditure of ASHP Foundation funds related to the execution of the study.

- Any unused funds must be returned to the ASHP Foundation by the grantees.
- If, for any reason, the grantees do not complete the project, the senior investigator must inform the ASHP Foundation in writing within 30 days of study termination. Within 60 days of study termination, the grantees are required to complete the Final Research Report and Final Financial Report and return any unused funds to the ASHP Foundation as described above.
- The grantees may request one grant extension. Only one extension will be granted for any study. The project must be completed and all other requirements of the grant fulfilled by the end of the extension period.
- The ASHP Foundation requires submission of the study results for presentation at a national or international scientific meeting. If submission is made to a pharmacy meeting, the American Society of Health-System Pharmacists retains the right of first refusal for scientific presentations that emanate from this study. If the study and its findings are presented at a medical or multidisciplinary meeting, the grantee should plan to also present the study and its findings at the ASHP Midyear Clinical Meeting that follows presentation at the medical or multidisciplinary meeting. All travel to present study findings should be supported through grant or institutional funds.
- The ASHP Foundation requires submission of study results to a peer-reviewed scientific journal within 6 months of study completion. If the study results are submitted to a pharmacy journal, the *American Journal of Health-System Pharmacy* retains the right of first refusal for publication.
- The ASHP Foundation should be notified by the principal investigators when articles containing the study findings are published.
- All presentations, publications, and other communications regarding this study must include the following acknowledgement: "This study was funded (or partially funded) by a research grant from the ASHP Research and Education Foundation."
- By accepting this award, the grantee will undertake all reasonable efforts to complete the study and take responsibility for fulfilling the terms described within the award letter.
- The recipient institution is responsible for the actions of its employees and other research collaborators, including third parties, involved in the proposed research. The recipient institution will inquire into and, if necessary, investigate and resolve promptly and fairly all instances of alleged or apparent research misconduct related to this ASHP Foundation-sponsored research in accordance with federal regulations on research misconduct (see 42 CFR part 93, "Public Health Service Policies on Research Misconduct.") and the U.S. Department of Health and Human Services Grants Policy Statement (see



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<http://www.ahrq.gov/fund/hhspolicy.htm>)

The recipient institution must report promptly to the ASHP Foundation any incident of alleged or apparent research misconduct involving ASHP Foundation-sponsored research that it judges as warranting investigation and must advise the ASHP Foundation of any decision to initiate an investigation. The recipient must also notify the ASHP Foundation if it intends to close a case at the inquiry or investigation stage based on an admission of responsibility, settlement, or for any other reason.

If a misconduct investigation has been initiated, the recipient institution must take any necessary steps, in addition to its normal and ongoing responsibilities under the grant, to protect human subjects, protect the scientific integrity of the project, provide reports to the ASHP Foundation, and ensure the proper expenditure of funds and continuation of the project during the investigation, if appropriate.

If the recipient finds research misconduct by anyone working on ASHP Foundation - supported research, whether at its organization or at a third-party organization, the recipient institution must assess the effect of that finding on the ability to continue that project, as originally approved, and must promptly request ASHP Foundation prior approval of any intended change of PI or other key personnel. In addition, the ASHP Foundation may withdraw approval of the principal investigator or other key personnel, disallow costs associated with the invalid or unreliable research, suspend or terminate, in whole or in part, the grant award.

V. APPLICATION PROCESS/SELECTION CRITERIA

Grant application reviewers will use the following criteria in evaluating applications:

Rationale - 10 points maximum

Do the investigators clearly explain why this study should be undertaken? Is there an adequate review of the relevant literature included in the background section of the proposal? Does the literature review demonstrate that the investigator understands the field and has a balanced and adequate knowledge of it? Do the investigators identify the next logical stage of research beyond the current application?

Significance - 10 points maximum

Does this study address an important problem? Is there a justification within the background section about the research field that led to the proposed study? Does the reason for conducting the study challenge existing paradigms or propose new methods, techniques or technologies? Do the investigators identify gaps in the existing evidence base and propose how the proposed study will fill those gaps? If the study is not innovative but is essential to move the field forward, the applicant should mention and discuss this in the proposal. Does the investigator demonstrate how the hypothesis and research will increase knowledge in the field and relate the study to longer-term, broad, scientific objectives and to the advancement of public health?



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Fostering Young Investigators Tip

A thorough evaluation of the existing evidence related to the proposed research question is essential to the development of the background, rationale and significance sections of the proposal. A review of the literature can ensure that the investigators do not duplicate questions that have been answered already and it can provide insights into important unanswered questions related to the topic area. The literature review should also be used to ensure that the background section provides adequate detail for the reviewer to understand the topic area *and* to frame the need for the proposed research in the significance and rationale section. For further discussion of the importance of the evidence review, see Dr. Kelly Smith's article for a detailed discussion of evidence review:

Smith, KM. [Building upon existing evidence to shape future research endeavors](#). Originally published in *Am J Health-Syst Pharm*. 2008; 65:1767-1774. © 2008, American Society of Health-System Pharmacists, Inc. All rights reserved. Posted with permission.

Objectives - 20 points maximum

Are the study objectives consistent with the specific grant program focus and the strategic priorities of the ASHP Research and Education Foundation? Are the overall objectives original and innovative? Are the objectives measurable?

Fostering Young Investigators Tip

Succinctly defining the research question is key to a successful resident research project. The research question should be defined as early as possible in the residency year. In their book, *Designing Clinical Research*, Hulley and Cummings (Cummings SR, Browner WS, Hulley SB. *Conceiving the Research Question*. In: Hulley SB, Cummings SR, eds. *Designing Clinical Research*. Vol 1. 1 ed. Baltimore: Williams & Wilkins; 1988:12-17.) describe the use of the mnemonic FINER in developing the research question.

Feasible

Adequate number of subjects

Adequate technical expertise

Affordable in time and money

Manageable in scope

Interesting to the investigator

Novel

Confirms or refutes previous findings

Extends previous findings

Provides new findings

Ethical

Relevant

To scientific knowledge

To clinical and health policy

To future research directions

See the following article for an extensive discussion of research question development:



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Lipowski, EE. **Developing great research questions.** Originally published in *Am J Health-Syst Pharm.* 2008; 65:1667-1670. © 2008, American Society of Health-System Pharmacists, Inc. All rights reserved. Posted with permission.

Once the research question is drafted, it should be circulated to experienced researchers for review.

Along with the research question, well defined objectives are key to the successful completion of a study. The objectives should answer the question “What are you going to do?” For a junior investigator-initiated study, the research team should not be overly ambitious with the objectives as this will affect project viability. The study should probably be limited to 2-3 objectives. However, these objectives can be designed to increase the value of the study. For example, a study that addresses outcomes data, rather than process data, could have an important impact on practice.

See the National Institute of Allergy and Infectious Diseases guidance on [writing study objectives](#).

Similar to the review of the research question, the objectives should be reviewed by experienced researchers. Hypothesis statements are developed primarily to provide a basis for statistical analysis. The National Institute of Allergy and Infectious Diseases also provides detailed information on generation of a [hypothesis statement](#).

Study Methods - 40 points maximum

Do the investigators propose clear and detailed study methods? Will the methods enable the researcher to address the stated objectives and hypothesis? Do the procedures to be followed include, when applicable: appropriate study design; sampling techniques and a description of the population from which the sample will be recruited; controls; procedures for collection, storage and quality control of data for the major outcome, variable secondary outcomes, and other covariates; assurance of availability of subjects and/or facilities to be used; feasibility of plans for recruitment and retention of subjects; and plans for data analysis including biostatistics support? Are methods problems anticipated and alternative approaches proposed? Can the proposed study methods be replicated and generalized?

Fostering Young Investigators Tip

Study design is one of the most important parts of conducting quality research. A well-designed study enables the researcher to respond to a research question with accurate, objective and valid methods. The study design that is chosen should employ the best approach to establishing a causal relationship between the intervention and the measurable outcome(s). The ASHP Foundation’s Web-based Research Resource Center contains a section on [study design](#) including [information from the Oxford Centre for Evidence Based Medicine](#) that provides brief descriptions of advantages and disadvantages of several different study designs.

Consultation with a biostatistician can dramatically impact the quality of the study. Key steps that lead to a valid statistical analysis include:

- Establishing a research question
- Formulating a hypothesis
- Identifying primary and secondary outcomes
- Selecting an appropriate test
- Sampling correctly
- Collecting data
- Describing the data



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Performing the test

A brief primer on descriptive and inferential statistics, entitled [Statistics at Square One](#), is available from the *British Medical Journal*.

The [National Institute of Allergy and Infectious Diseases](#) provides insight into what grant reviewers are looking for in terms of study design.

See the following articles for extensive discussions of multiple issues related to study design:

Hartung, DM, and Touchette, DR. **An overview of clinical research design**. Originally published in *Am J Health-Syst Pharm*. 2009; 66:398-408. © 2009, American Society of Health-System Pharmacists, Inc. All rights reserved. Posted with permission.

Planas, LG. **Intervention design, implementation and evaluation**. Originally published *Am J Health-Syst Pharm*. 2008; 65:1854-1863. © 2008, American Society of Health-System Pharmacists, Inc. All rights reserved. Posted with permission.

Gerhard, T. **Bias: Considerations for research practice**. Originally published in *Am J Health-Syst Pharm*. 2008; 65:2159-2168. © 2008, American Society of Health-System Pharmacists, Inc. All rights reserved. Posted with permission.

Kimberlin, CL, and Winterstein, AG. **Validity and reliability of measurement instruments used in research**. Originally published in *Am J Health-Syst Pharm*. 2008; 65:2276-2284. © 2008, American Society of Health-System Pharmacists, Inc. All rights reserved. Posted with permission.

DeMuth, JE. [Preparing for the first meeting with a statistician](#). Originally published in *Am J Health-Syst Pharm*. 2008; 65:2358-2366. © 2008, American Society of Health-System Pharmacists, Inc. All rights reserved. Posted with permission.

DeMuth, JE. [Overview of biostatistics used in clinical research](#). Originally published in *Am J Health-Syst Pharm*. 2009; 66:70-81. © 2009, American Society of Health-System Pharmacists, Inc. All rights reserved. Posted with permission.

Scope and Timeline - 5 points maximum

Do the investigators justify that the proposed timeline is realistic? Is there evidence the study can be completed in the proposed time period (maximum 18 months)? Do the investigators present information to support the feasibility of the study (e.g., pilot data)? Will sufficient patients/subjects be available for completion of the project within the proposed time period?

Fostering Young Investigators Tip

Visit the [ASHP Foundation Research Resource Center](#) to view a [sample grant timeline](#).

Personnel and Facilities - 15 points maximum

Are the professional competencies and experiences of the investigators appropriate to execute the work required? Is there evidence of a commitment to collaboration between the research team? Are the facilities appropriate and adequate for the proposed project? Is there evidence of institutional support?



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The application is to be completed by the principal investigators and mailed to:

Daniel J. Cobaugh, Pharm.D., DABAT, FAACT
Senior Director for Research and Operations
ASHP Research and Education Foundation
7272 Wisconsin Avenue, Suite 200
Bethesda, Maryland 20814

To be accepted, the completed application must be mailed to arrive at the ASHP Foundation no later than the 5:00 p.m. Eastern Time on October 23, 2009. If additional space is needed for any item(s), append additional page(s) and reference with item numbers. If significant institutional support, including in-kind contribution of time for members of the investigator team, will be required for completion of the proposed research, a support letter that confirms this institutional support should be included. Ten (10) copies (original plus nine) of the completed seven-page application form, with all attachments, must be submitted. Each copy must be collated in the order in which the items appear in the grant application:

- 1) Completed application form (7 pages)
- 2) Any attached pages required to complete Items 1-10
- 3) Project plan (Item 11(a) parts 1-10)
- 4) Curricula vitae for all investigators (Item 11(b))

**APPLICATIONS THAT DO NOT STRICTLY COMPLY WITH THE APPLICATION
INSTRUCTIONS WILL BE RETURNED WITHOUT REVIEW.**

VI. ITEMIZED INSTRUCTIONS FOR GRANT APPLICATION

1. Self-explanatory.
2. Funds may be requested for a maximum period of 18 months. Based on the October 23, 2009 deadline, notice of award will occur on or around December 15, 2009.
3. Total amount requested cannot exceed \$5,000 for an 18-month period. The total budget, direct costs and facilities/administrative costs, cannot exceed \$5,000.
4. (a,b) The pharmacy resident must be participating in an ASHP-accredited residency program or a program that has applied for ASHP accreditation.
(c,d) Institution and the department or division in which the pharmacy resident is currently employed.
(e-h) Self-explanatory.
(i) Percent effort is the total percentage of the investigator's time that they will commit to this study. For example, if an investigator works 50 hours per week and expects to commit 5 hours per week to the study, their percent effort would be 10%.
5. (a,b) The senior investigator does not have to be a pharmacist. The senior



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investigator should have the requisite research skills and experiences to supervise the resident's research activities. The individual named as senior investigator must assume primary responsibility for the study and serve as the senior investigator for the entire grant period.

(c,d) Institution and the department or division in which the senior investigator is currently employed.

(e-h) Self-explanatory.

(i) Percent effort is the total percentage of the investigator's time that they will commit to this study. For example, if an investigator works 50 hours per week and expects to commit 5 hours per week to the study, their percent effort would be 10%.

6. (a) The sponsoring institution is that location at which the research will be conducted. Grant checks will be made payable to the institution name listed. (b) The ASHP Foundation only makes grants to tax-exempt institutions or agencies in the United States of America. (c) Self-explanatory. (d-e) List the grant officer at the sponsoring institution who will be responsible for monitoring of grant fund use. **Institutions with grants management divisions are required to submit the grant application to the institutional grants management division for review and sign-off prior to submission to the ASHP Foundation.** For institutions that do not have internal grants management divisions, the institution must identify an appropriate entity (e.g., related healthcare foundation) to receive the funds and monitor their use. The grant officer cannot be a member of the investigator team. The grant officer cannot be a departmental support staff member (e.g., administrative assistant.) (f-h) Self-explanatory.
7. (a) All personnel for whom salary support is requested must be named in this section. Salary support is available only for study personnel (e.g. senior investigator, technical personnel; clerical personnel; and other professional personnel.) Resident salaries and fringe benefits are not allowed under this grant program. In the personnel budget justification section, provide a detailed justification that describes each individual's role. The budget justification should correspond directly to the project plan.
(b) All consumable supplies must be itemized as to description, number, cost per unit, and total cost. If exact costs are not known, estimates must be provided. Provide a detailed justification for each budget item. The budget justification should correspond directly to the project plan.
(c) Only travel costs essential to the conduct of the project are eligible for funding. Travel to present project findings is acceptable in the range of \$1,000 to \$1,500 per project. In the travel budget justification, provide a detailed justification for each budget item. All travel to present study findings should be supported through grant or institutional funds. Estimated costs for meeting registration fees, airfare, lodging, meals, and ground transportation must be provided.
(d) All other expenses not already specified must be itemized and justified in relation to the project. Permanent equipment, facility construction or renovation, or software are not eligible for funding. Provide a detailed justification for each budget item. The budget justification should correspond directly to the project plan.



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- (e) Requests for support for facilities and administrative costs rates cannot exceed 8% of the direct costs. The total budget, direct costs and facilities/administrative costs, cannot exceed \$5,000. TOTAL budget should be the same as Item 3.
8. (a) All other professionals engaged in project for whom salary support is not being requested must be named here with their official title, department/division, institution, and their percent effort dedicated to this study. If significant institutional in-kind contribution of time for these members of the investigator team will be required for completion of the proposed research, a support letter that confirms this institutional support should be included.
 9. Self-explanatory.
 10. This "certification" must be signed by the pharmacy resident investigator, the senior investigator/advisor, and the financial officer named in Item 5.
 11. (a) Each of the ten headings must appear in the stipulated order. The abstract should summarize the proposal - with a focus on objectives and methods - and is limited to one page. In developing the proposal, the applicant should provide sufficient detail in the methods section including a power analysis, if applicable, and plans for data management and analysis. A detailed description of the subject recruitment process, including the informed consent process, should be provided if applicable. The application must address the ability to recruit a sufficient number of subjects to successfully complete the study. Under "Role of the Resident Investigator and Senior Investigators," describe the role of the resident investigator and the senior investigator in serving as the co-principal investigators with responsibility for the entire project. Describe the qualifications of the each researcher according to the eligibility requirements described above. Including the abstract and references, the narrative of the project plan may not exceed ten (10) pages (using 11 point font or larger, 8.5 x 11 inch paper, 1 inch margins, single spacing and single sided pages). Applicants should strictly comply with font size, paper size, spacing and page limit requirements. Applications that do not strictly comply with the application instructions will be returned without review. In developing the project plan, applicants are strongly encourage to use the Fostering Young Investigators Tips that are included throughout these application instructions.
(b) Provide a curriculum vitae (C.V.) for each investigator. **Curricula vitae must be limited to 4 pages and must be submitted in the format provided in the PHS 398 form from the U.S. Department of Health and Human Services. (See www.grants.nih.gov/grants/funding/phs398/biosketchsample.doc.)**

APPLICATIONS THAT DO NOT STRICTLY COMPLY WITH THE APPLICATION INSTRUCTIONS WILL BE RETURNED WITHOUT REVIEW.

Applicants should receive a receipt confirmation email from the ASHP Foundation within five (5) days of mailing the application. If this email



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confirmation is not received, applicants should immediately contact the ASHP Foundation to verify that the application was received.