Optimizing Technology Solutions
Innovation Grant

Application Instructions and Guidelines

PROGRAM TIMELINE AT-A-GLANCE:
Application Open: December 2, 2019
Deadline: March 3, 2020
Grantees Announced: By May 2020

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Supported by Omnicell

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Grant Program Description

The evolution in data, mobile, and cloud technologies driven by consumer demand for choice and control has made its way into the healthcare industry. Innovative solutions that incorporates such technologies (e.g., digital therapeutics, virtual reality, automation, and artificial intelligence) have the potential to impact the way care is delivered to help people achieve optimal health outcomes.

With the launch of the ASHP Innovation Center, the ASHP Foundation is offering a competitive grant program to support projects that demonstrate the impact of innovative solutions to enhance safe and effective use of medications.

Research proposals will provide innovative technology solutions impacting care and will include process and outcome measures. Priority will be given to projects that are innovations and measure meaningful outcomes, including:

- Enhanced processes: efficiency and effectiveness of care
- Improved outcomes: patients, staff, organizations

For the purposes of this grant, “An innovation is the implementation of a new or significantly changed product or process. A product is a good or service.”¹

Eligibility

Applications for research are required to include:

- The proposed research must include:
  - Project demonstrates impact of implementation and use of technology in medication use
  - Measurable objectives;
  - Research methods that support the study objectives;
  - Description of the impact that the results of the project will have on individual and organizational outcomes;
  - Description of the potential to generalize findings; and

- The research team should be interprofessional (e.g., pharmacists, physicians, nurses, informatics experts).

- The principal investigator must be a licensed pharmacist and an ASHP member.

- Priority will be given submissions that include a principal investigator with a research track record as evidenced by a history of publication of original research in peer-reviewed biomedical journals and receipt of extramural grant funding.

- If you are a newer investigator, a new researcher within five (5) years of completion of his/her terminal degree or postgraduate training or have professional experience greater than five years and no more than two (2) externally funded research projects as a principal investigator, you must designate a mentor from your research team.

- The study timeline must be specified and should not exceed 18 months from project initiation.

• 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.

• 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.

• Not-for-profit organizations, for-profit entities, and government agencies are eligible to apply to this program. If a for-profit entity or government agency is a grant recipient, the monetary award provided by the ASHP Foundation must be received and managed by a 501(c)3 not-for-profit organization. Applicant organizations must be in the United States of America to be eligible for the grant.

• Not Eligible: Current members of the ASHP/ASHP Foundation board of director and ASHP/ASHP Foundation staff are not eligible to serve as a member of an investigator team for this grant program.

• The research must comply with the NIH Policy and Guidelines on the Inclusion of Women and Minorities as Subjects in Clinical Research

• The research must comply with the NIH Inclusion Policy Involving Human Subjects

• The principal investigator cannot apply for more than one grant in an application cycle.

Funding Information

A grant will be awarded to provide funding for the proposed project and is not intended for long-term support of research programs. Your project budget may include facilities and administrative cost rates that do not exceed 8% of the total requested budget. Grants will be awarded to individual projects and the funds will be disbursed directly to the sponsoring institution for administration.

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;
• 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. Travel exceeding this range may be submitted for approval following completion of study to over additional presentation opportunities that enhance dissemination of results; and
• Facilities and administrative cost rates that do not exceed 8% of the total direct costs.
Grant Recipient Responsibilities

• The grant period of activity will begin upon notice of grant award by the ASHP Foundation and will expire based upon the proposed project timeline and a maximum of 18 months after the initial notification.

• Following initial disbursement of funds, the grantees must submit Progress Reports every six (6) months to the ASHP Foundation, until project completion, addressing the following:
  o Progress toward completion of activities included on the study timeline for the timeframe in question;
  o Any protocol modifications and documentation of IRB review and approval of such modifications; and
  o 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 will be submitted via a survey and must include:
  o A summary of the study results including statistical analysis, if applicable;
  o Preliminary conclusions;
  o A summary of all adverse events associated with execution of the study and documentation of IRB review of such adverse events;
  o A summary of all protocol modifications and documentation of IRB review and approval of such modifications;
  o Lessons learned, including barriers and facilitators;
  o Implementation recommendations; and
  o 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 system-generated 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 within 120 days of submission of the Final Financial Report.

• 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 a system-generated Final Financial Report and return any unused funds to the ASHP Foundation as described above.

• The grantee 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.

• If the findings of the above named study are presented at a national pharmacy meeting, ASHP retains the right of first refusal for presentation of the study and its findings at an ASHP meeting.

• 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 principal investigator will notify the ASHP Foundation when the study findings are published and presented.

• 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 Foundation.”

- By accepting this award, the grantee agrees to 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 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 institution 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.

Grant Selection Criteria

Using the following criteria (Table 1), reviewers will provide scores to reflect their assessment of the study for each of the following components: specific aims and hypothesis; rationale and significance; innovation; approach (study methods); investigators and environment; and scope and timeline. Additionally, reviewers will give the submission an Overall Funding Priority Score (Table 2). Use the below criteria and questions to self-assess your proposal submission.

<table>
<thead>
<tr>
<th>Table 1: Criteria Based Scoring (Maximum = 100 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specific Aims and Hypothesis</strong></td>
</tr>
<tr>
<td>- Study aims consistent with the specific grant program focus and the strategic priorities of the ASHP Foundation;</td>
</tr>
<tr>
<td>- Research question(s) is clear and well-defined;</td>
</tr>
<tr>
<td>- Objectives and outcomes are measurable and meaningful; and</td>
</tr>
<tr>
<td>- The number of objectives is reasonable based on available funding.</td>
</tr>
</tbody>
</table>
| **Rationale and Significance** | - Investigators clearly explain why this study should be undertaken;  
- Study addresses an important care delivery area;  
- Adequate review of the relevant literature is included in the proposal;  
- Investigators identify gaps in the existing evidence base and propose how the proposed study will fill those gaps;  
- Good description of how study outcomes will advance care and pharmacy practice;  
- Objectives and outcomes are meaningful;  
- Proposal includes the next logical stages of research beyond the current application. |
| **Innovation** | - Project is original and innovative;  
- Develops or employs novel approaches or methodologies, tools, or technologies for this area;  
- Outcomes of the study will advance methods, technologies, services, or preventative interventions. |
| **Investigators and Environment** | - Principal investigator (PI) and other key personnel are appropriately trained and well suited to carry out this work;  
- Proposed research is appropriate to the experience level of the PI and the other members of the research team (Team);  
- PI and research team bring complementary and integrated expertise to the project;  
- Team is interdisciplinary in its composition;  
- A biostatistician is included on the team or support is documented;  
- Proposal demonstrates that the environment in which the work will be done contributes to the probability of success including evidence of institutional support. |
| **Approach** | - Conceptual or clinical framework, design, methods, and analyses are adequately developed, well-integrated, well-reasoned, and appropriate to the aims of the project;  
- The proposed outcomes are measurable;  
- Study methods and procedures are described and 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; and  
- Challenges related to the methods are anticipated and alternative approaches are proposed; |
| **Scope and Timeline** | - Evidence is included that the study can be completed in the proposed time period, such as pilot data and/or baseline data demonstrating sufficient patients/subjects; and  
- Investigators justify that the proposed timeline is realistic. |
**Table 2: Overall Funding Priority Score**

<table>
<thead>
<tr>
<th>Impact</th>
<th>Score</th>
<th>Descriptor</th>
<th>Additional Guidance on Strengths/Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>Exceptional</td>
<td>Exceptionally strong with no weaknesses</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Outstanding</td>
<td>Outstanding</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Excellent</td>
<td>Very strong with only some minor weaknesses</td>
</tr>
<tr>
<td>Medium</td>
<td>4</td>
<td>Very Good</td>
<td>Strong but with numerous minor weaknesses</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Good</td>
<td>Strong but with at least one moderate weakness</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Satisfactory</td>
<td>Some strengths but also some moderate weaknesses</td>
</tr>
<tr>
<td>Low</td>
<td>7</td>
<td>Fair</td>
<td>Some strengths but with at least one major weakness</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Marginal</td>
<td>A few strengths and a few major weaknesses</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Poor</td>
<td>Very few strengths and numerous major weaknesses</td>
</tr>
</tbody>
</table>

**Weakness:**
- Minor Weakness: An easily addressable weakness that does not substantially lessen impact.
- Moderate Weakness: A weakness that lessens impact
- Major Weakness: A weakness that severely limits impact.

Note: A score of 5 is a good, medium-impact application.

**Additional Review Considerations:**
In the written review and during the review call, reviewers will also address protection of human subjects, inclusiveness, patient privacy and safety protections, and budget/budget justification.

**Protection of Human Subjects from Research Risk:**
Do the investigators adequately address human subjects’ protections?

**Inclusiveness:**
Does the research plan address gender, racial and ethnic minority balance?

**Privacy and Security Protections for Patients:**
Do the investigators adequately address patient privacy and safety issues?

**Budget:**
Are the proposed budget and budget justifications reasonable, and is the requested period of support appropriate in relation to the proposed research?

**Itemized Application Instructions**

**Project:**
- Study Title
- Project Period: Up to a maximum period of 18 months.
- Total Budget Requested: Cannot exceed $30,000. (Please note that the total budget is inclusive of the 8% for facilities and administration).
<table>
<thead>
<tr>
<th>Maximum Budget</th>
<th>Suggested Grant Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5000 – 10,000</td>
<td>9 – 12 months</td>
</tr>
<tr>
<td>&gt;$10,000 – 30,000</td>
<td>12 – 18 months</td>
</tr>
</tbody>
</table>

**Principal Investigator**
- Please note: Members of the ASHP and ASHP Foundation Board of Directors, as well as ASHP and ASHP Foundation staff are not eligible to serve as a member of the investigator team for this research grant program.
- ASHP Member ID (active ID required)
- Degree(s)
- Position title.
- Institution/Organization name.
- Physical mailing address at place of employment.
- Business telephone number at place of employment.
- Email address that is most commonly used for frequent communication.
- Percent effort is the total percentage of the investigator’s time that he/she 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, his/her percent effort would be 10%.

**Sponsoring Institution and Grant Officer**
- Not-for-profit organizations, for-profit entities, and government agencies are eligible to apply to this program. If a for-profit entity or government agency is a grant recipient, the monetary award provided by the ASHP Foundation must be received and managed by a 501(c)3 not-for-profit organization. The institution must be in the United States of America to be eligible for the grant.
- The sponsoring institution is the location at which the research will be conducted. Grant checks will be made payable to the institution name listed.
- List the grant officer at the sponsoring institution who will be responsible for monitoring of grant fund use. 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.
- Title of the grant officer must directly reflect an appropriate individual to receive the funds and monitor their use.
- Physical mailing address of the grant officer that all grant correspondence will be sent to.
- Business telephone number of grant officer.
- Email address that is most commonly used for frequent communication.

**Other Investigators**
- All other professionals engaged in project for whom salary support is NOT being requested must be named here with his/her credentials, institution name and department/division, email address, and his/her percent effort dedicated to this study. If 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.
- Provide: Full Name, Title & Credentials, Institution Name, Dept./Division, Email Address, and % Effort.

**Mentor for New Investigators**
- New Investigators must designate a mentor from your research team (see definition in eligibility).
Detailed Budget

(a) PERSONNEL
All personnel for whom salary support is requested must be named in this section. Salary support is available only for study personnel (e.g., technical personnel; clerical personnel; and other professional personnel.) Resident salaries and fringe benefits are not allowed under this grant program. Strong consideration should be given to allocating a portion of the budget to support biostatistics consultation. 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) CONSUMABLE SUPPLIES
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) TRAVEL
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) OTHER EXPENSES
All other expenses not already specified must be itemized and justified in relation to the project. Permanent equipment, facility construction or renovation, and software are not eligible for funding. Provide a detailed justification for each budget item. The budget justification should correspond directly to the project plan.

(e) FACILITIES AND ADMINISTRATIVE COSTS
Requests for support for facilities and administrative costs rates cannot exceed 8% of the direct costs. TOTAL budget should be the same as Item I (d).

Supporting Documents Required

(a) UPLOADS

Research Plan Components
Description of proposed research plan on no more than ten (10) pages (using 11 point font or larger, 8.5 x 11 inches paper, 1-inch margins, single spacing and single-sided pages) with numbered pages under each of the following nine (9) headings in the stipulated order:

1. Abstract of proposal (limit to one page with a focus on objectives and methods)
2. Specific Aims and Hypothesis
3. Rationale and Significance
4. Innovation
5. Investigators and Environment
6. Approach
   - Detailed study procedures;
   - Power calculation, if applicable;
   - Plans for data analysis; and
   - Procedures for recruitment, retention, and protection of subjects, if applicable
7. Human Subjects/Inclusiveness/Privacy
8. Scope and Timeline
9. References
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.

(b) BIOGRAPHICAL DATA
The biographical sketch is required for the principal investigator and must list all of their peer reviewed publications and should be submitted in the format acceptable by the NIH and AHRQ, links included below. Submission of biosketch information is recommended but optional for other research team members.

<table>
<thead>
<tr>
<th>Biographical Sketch Format Page (non-fellowship)</th>
<th>Date Posted</th>
<th>Blank Format Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9/2018</td>
<td>MS Word</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <a href="https://grants.nih.gov/grants/forms/biosketch.htm">https://grants.nih.gov/grants/forms/biosketch.htm</a></td>
</tr>
</tbody>
</table>

(c) CERTIFICATION AND ACCEPTANCE
This certification must be signed by the principal investigator and the grant officer. *If the principal investigator is a new researcher, the designated mentor must also sign the form.

SUBMIT **ONLINE APPLICATION** BY 11:59 pm ET, MARCH 3, 2020.
DIRECT ANY QUESTIONS TO foundation@ashp.org.