

# GRANT WRITING TIPS

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## GRANTSMANSHIP TIPS

### Introduction

The objective of these guidelines is to assist both beginning and established investigators to optimize their chances of successfully competing in a peer-reviewed research application competition.

Remember: This is a competition. With success rates falling to 1 out of 4, or below, the difference between success and failure often results, not just from the quality of the science but from the quality of the application.

The quality of science of the applications that fall in the 10% below the cut-off line for funding is often not significantly different from those in the 10% just above the cut-off. "Grantsmanship" can make the difference.

Strong grantsmanship does not guarantee that mediocre science will turn into a fundable grant proposal. However, poor "grantsmanship" will, and often does, turn very good science into an unfundable proposal. Good writing will not save bad ideas, but bad writing can kill good ones.

### Before You Begin Your Proposal

Make sure that your proposal is aligned with the AHA's mission and that your research objectives match the AHA's. Make this "match" explicit in your written application.

If you have any doubts or questions, contact the AHA staff, who will welcome your questions and answer them. We really do want to help.

Find colleagues who have served on, or have received funding from, the AHA and/or the NIH. They can give you "insider" information on how the agency works, and what "sells."

(NOTE: If your colleague is a current AHA reviewer, they might not be able to help you because it would be a conflict of interest.) AHA staff can give you names of past and present reviewers at your institution.

### Formulate / Clarify Your Ideas

- Do you have a clear, concise, and testable hypothesis?
- Are your objectives and aims focused?
- What questions are to be addressed?
- Can you define and design specific experiments that will directly test your hypothesis?
- Do not wait until the last minute to formulate your ideas. Start the process early.
- Consider writing up your recent work and submit it to appropriate peer-reviewed journal(s). Do this well in advance so that the work can appear in your application as "published," "in press" or "a submitted manuscript." Your record of accomplishment, as judged by publications, is an important criterion in the assessment.

- Carry out appropriate preliminary (pilot) studies, so that these results can be included in the application. This is especially important for new applications because it helps clarify whether the experimental approaches are feasible and where the pitfalls may be.
- Find and study previous grant proposals of colleagues who have been successful. Consider these as models. Seek out proposals that ranked in the top 10-15%.
- If you don't have expertise in a technique, identify essential and appropriate investigators who wish to collaborate or consult with you.
- Discuss ideas with colleagues in the same and relevant fields. Just going through the process of explanation and discussion helps to clarify and focus your ideas, and to identify possible gaps in logic.

## **YOUR APPLICATION**

### **General Information**

- Begin early – do not wait until the deadline is near to start working on your application.
- Read the general instructions CAREFULLY and follow them EXACTLY.
- Successful applications must be "a joy to read" and must stand out from the ever-increasing competition.
- Follow AHA's instructions for appropriate type size, font, spacing, pagination, and margination.
- Do not go over the maximum number of pages allowed. The AHA does not accept applications that have even ONE page too many.
- Send only the number of copies required.
- If attachments and/or appendices are not allowed, do not submit them. They will not be distributed to reviewers.
- Do not submit additional information after the deadline (unless explicitly requested).
- During the application screening process, many applications have missing items. These applications are incomplete and require the applicant to submit additional information urgently. This does not make for a good beginning. "A sloppy application = a sloppy scientist."
- Polish your application extensively. Make the application well focused, clear, well organized, attractive and accurate.
- Be consistent with terms, references, and form writing style.
- Understand your reviewers:
  - Make reviewers enthusiastic advocates for your application. A lukewarm review is fatal.
  - Reviewers are doing their reviews as a task over and above their daily mandated activities.
  - The AHA does not compensate reviewers for their time.
  - Reviewers often do their reading in bits-and-pieces. Have your application so organized so that it can be read in this way. You do not want them to have to go back to the beginning after each break.
- Pay close attention to AHA's research program objectives and criteria. Do not waste your time applying to the "wrong" agency or program.
- Proofread carefully by reading your proposal aloud. Do not rely on computer "spell check" and "grammar check" to point out mistakes. When in doubt, use a dictionary. Adding a misspelled word to your spell check dictionary can cause recurring misspellings. If you can't get the spelling and/or the grammar right, how are you expected to get the research right?

- Use basic English. Avoid abbreviations, acronyms, and jargon that the non-expert may not understand. If you use abbreviations, define them when used for the first time.
- Do not use photo reductions on a copy machine, particularly gels, etc. because they may become unreadable.
- Draw or print all graphs, diagrams, charts, and tables in black ink (be consistent with formats). Label these items carefully.
- Include only those graphs, tables, etc., that are essential to the narrative; these should complement the text and be appropriately inserted.
- Sometimes, applications are assigned to a multidisciplinary team of reviewers. You may be writing for a reviewer in a related field, rather than for an expert directly in your area. Aim the application at both the expert in the field and at the generalist.
- Extensive and intensive internal peer review of your proposal is essential. Have an outside reader review your proposal for clarity and consistency.
- Ensure that a late draft (not an early one) is examined by at least two or three colleagues who have experience with, and are successful in, the peer review process. Have someone in your direct scientific area check relevance, accuracy, ambiguities and quality of the science. Have a "generalist" check for clarity and have someone who is a good editor check your work.
- Make sure that the (late) version they receive is free of mechanical errors (spelling, typos, grammar, etc.). It is not their task to make these kinds of corrections. If they are distracted by mechanical errors, they may fail to identify fundamental problems.
- Give your internal reviewers enough time to do a thorough job. Do not insult them by giving them a 24-hour deadline.
- Make sure the application is signed and dated by you (the Principal Investigator) and by the designated institutional business official before you send it.

### Your Project Title

- The title of your project is important. It sets the first impression. Along with the Abstract, it is one of the criteria used to route your application to the appropriate review committee(s) and reviewers.
- Your title should be descriptive, specific, appropriate, and should reflect the importance of the proposal. However, it should not be so specific as to require changes with each renewal or resubmission -- it helps to maintain the same title.
- Ensure that your title stays within the allowable character limits. If your title is too long, it may be truncated to the allowable length so that it can appear electronically. This could inadvertently change the entire meaning of your title.

### Your Abstract / Summary of Proposal

The abstract should serve as a succinct and accurate description of the proposal, even when it is separated from the application. It must stand on its own.

- This is probably the most important section in your application. Take it seriously. Write it last. Work on it extensively after the bulk of the proposal has been fine-tuned. It is the first part that is read, and this sets the first impression.
- The abstract is often used to route the application to the appropriate external reviewers, committee, and to the primary and secondary reviewers assigned to your application.
- It must be understood by experts in your field and by "generalists."
- The primary and secondary reviewers read the entire application for which they are responsible, but others on the review committee **may only read the abstract**. The abstract may be the only part of the application that is read by all the members of the

grants committee who are not primary reviewers, even though ALL members will be asked to give their independent scores (given equal weight to the scores of the primary and secondary reviewers).

- Review committee members study the application and prepare written critiques before the meetings. They then quickly review all the abstracts just before the meetings recall the essentials.
- The abstract should include: hypotheses (if applicable), specific aims / objectives, approaches, research plan, and significance.
- Describe how the proposal is directly related to AHA's mission and objectives.
- Describe concisely the research design and methods.
- Explain why the proposal is unique, important, significant, and worth supporting.
- Stay within the allotted space for the abstract. It is not necessary to fill this space. When you have nothing more to say, stop.

## **PROPOSED RESEARCH PLAN**

### **General Information**

- Keep the proposal confined to the space allotted.
- Your proposal must be focused, original, novel, innovative, and of course feasible.
- Try to find a balance between something "sure" and something new, innovative and/or risky.
- Describe alternative strategies in case the original ideas fail.
- Write and rewrite: work and rework the application.
- Use of diagrams, cartoons, and figures is often helpful (a picture is worth a thousand words). However, note that copies will not appear in color.
- Make your research plan a joy to read. You want the reviewers to become your advocates, not your adversaries.
- Never state or imply that a study will be carried out "because it has never been done" or "there are no data on ...." This may be so because the concept is trivial.
- State clearly what is novel, and what is merely confirmatory.
- State explicitly how the proposal has relevance to CVD and/or stroke.
- It may be useful to organize the presentation of your research plan with appropriate headings and sub-headings, using a simple and obvious numerical classification. Be careful about too much white space, you are working within a page limitation.
- Cite your sources. Cite all information taken from another researcher or publication. Failure to do so may result in withdrawal due to plagiarism.

### **Resubmissions**

- When submitting a revised application, answer all reviewer concerns mentioned in the earlier critique. Changes you make in the revised application must be described and illustrated.
- The AHA allows applicants to submit an original plus a maximum of two resubmissions. If you have submitted the maximum number of applications of the same project (3), consider developing a new proposal.

### **Specific Aims**

- The Specific Aims are the specific projects, studies, and items that will be undertaken in order to fulfill the long-term objectives.

- Put them in a logical and sequential order. Indicate priorities.
- Provide a clear, concise summary of the aims of the work proposed and its relationship to your long-term goals.
- State the hypothesis or hypotheses to be tested.

### **Background: Current State of Knowledge**

- Sketch the background leading to this application. Summarize important results outlined by others in the same field, critically evaluating existing knowledge.
- Identify gaps that this project is intended to fill.
- The information should answer three questions; what is known, what is not known, and why is it essential to find out.
- Begin with a brief outline of the highlights in the background review. State where your own previous contributions (if any) fit in.
- Critically evaluate the relevant literature: not just an uncritical compendium or list. Make sure all citations are complete: title, authors, book or journal, volume number, inclusive pages, year of publication.
- Discuss all sides of a controversy, disagreement, and/or discrepancy in published results fairly. However, be careful since a participant in a controversy may be your reviewer.
- Specifically identify the gaps and contradictions that you will clarify. Carry this into the rationale for your proposal.
- Emphasize the importance and relevance of your proposal in bridging your hypotheses and long-term objectives to the background review.
- Integrate your previous findings within the background to give the reviewers a sense of your relevant contributions.
- Describe preliminary data that are relevant and pertinent. Show the actual data. Tie these directly to your hypotheses and long-term objectives. This is especially important in a new application in order to document the credibility, experience, and competence of both the proposal and the applicant.

### **Significance and Cardiovascular Relevance**

- State concisely the importance of the proposed research and discuss its health relevance, including relevance to cardiovascular function and disease, stroke, or to related fundamental problems.
- Describe the relevance of the proposed research to the cardiovascular area or stroke.
- Failure to establish cardiovascular relevance can result in disapproval of the application.

### **Preliminary Research of Principal Investigator**

- Concisely describe your previous work related to the proposed research to establish your experience, competence, and credibility to pursue the proposed project.
- Include pilot studies showing the work is feasible, if applicable. Present the actual data. This will help establish your experience, competence, and credibility.

## Methods of Proposed Research

- Describe how you propose to fulfill the Specific Aims.
- Explicitly describe the proposed experiments, methods, or procedures.
- Provide sufficient detail and definition to allow adequate evaluation of the approach to the problem.
- Describe any new methodology and its advantage over existing methodologies. Explain why they are better than existing methods.
- Describe the overall study design, including a power analysis for justification of the number of subjects to be used in the study and control populations. Distinguish clearly between overall research design and specific methods.
- Explain the processes for data collection, analysis, and interpretation. Describe in detail the statistical analysis that will be used for the data interpretation, including a discussion of the adequacy of controls, evaluation of assumptions, and method of establishing statistical significance.
- Include details of any collaborative arrangements that have been made.
- Be focused and clear. Put the Aims in a logical and sequential order. Consider a brief opening paragraph describing the relationship of each Specific Aim to each other and to the overall Objectives. It is useful to break this section down, beginning with each stated Specific Aim (consider a one-sentence rationale for each aim). Then outline the methods to accomplish each Specific Aim, and explain why the proposed approach was chosen. Make a convincing case for why the project should be funded and that the research can be done.
- Consider a plan something like this:
  - Number the research designs and methods to correspond to the numbers of the Specific Aims.
  - Use sub-numbering within each part when describing several methods applicable to the same Specific Aim.
  - Do not repeat identical procedures that apply to more than one Specific Aim.
  - Reference, but do not describe, well-known or standard procedures. However, do describe procedures that are new or unlikely to be known to reviewers.
  - Discuss relevant control experiments (This is often lacking).
  - Provide a brief tentative sequence and timetable for the project. List them in order. Be realistic. Consider doing this using a diagram or table. Clearly define priorities.
  - Document all proposed collaborative arrangements, including letters from collaborators confirming the specifics of the arrangement. The role of collaborator(s) should be clearly defined. Biographic sketches (if allowed) are useful. Otherwise, relevant experience and expertise should be included in the collaborator's letter.

## Experimental Problems

- Discuss potential difficulties and limitations of the proposed procedures and give alternative procedures to achieve the aims. This will prevent potential criticisms by reviewers and may, in fact, "save" your application.

- State clearly possible weaknesses and/or ambiguities and explain why you have included them (i.e. preempt the criticisms).

### **Ethical Aspects of Proposed Research**

- If the research involves human subjects, biohazards, or animals, explain the decision governing these choices.
- Describe any special consideration you have given to all ethical issues involved in your proposed investigation (biohazards, human or animal subjects), identifying risks and management.
- Discuss the nature of the informed consent that will be obtained if the research involves human subjects. If the proposed project involves no ethical questions, indicate such.
- If a proposed research project involves human subjects, the population sampled should be inclusive of the general population, of relevance to the scientific question posed, without restriction concerning gender, race, age, and socioeconomic status. Proposals that intentionally restrict the population sampled must include a compelling scientific rationale for such research design. Be sure to address this topic.

And do this all within the page limit allowed.

### **Literature Cited – References**

- List publications, manuscripts, abstracts and other material referenced in your proposal -- submitted or accepted. There is no page limit for the Literature Cited section.

### **Progress Report (for current AHA awardees and those whose projects have ended within the last two years) [was this to be changed to only current awardees?]**

#### If a renewal:

- Include specific aims from the original proposal, a brief summary of the project, and a summary of your progress with respect to the specific aims.
- Remind reviewers of the start and end dates of the previous award. You must establish your credibility of excellence in research, and that the proposal will continue the high quality of your research.
- Summarize your previous hypotheses, long-term objectives and specific aims, and give a succinct description of progress. Emphasize especially the most important and relevant findings.
- It is appropriate to describe how your specific aims may have changed as the work progressed.
- Incorporate all publications, manuscripts submitted or accepted, and abstracts (if permitted), of work carried out during the term of the grant.
- In as subtle a way as possible try to convince the reviewers that your recent contributions were outstanding and of great importance. How has your work significantly advanced knowledge in the field? In addition, how will the proposal continue this record of achievement and excellence?

- Do not complain about previously low or inadequate funding. This is self-defeating.

If a new application:

- Convince your reviewers of your excellent and relevant training, and that you already have substantive preliminary data and/or pilot studies.
- Summarize your relevant previous work, highlighting your unique qualifications and skills. Tell how these will assist you in successfully carrying out the proposed studies.

**Budget**

- The budget is usually considered last, after the merits of the proposal have been decided, and a score has been given by all reviewers.
- Make sure your budget is well documented, realistic, appropriate, and justified. Do not inflate, overbudget, or underbudget.
- Check carefully what AHA supports. Do not request items that are not allowed.
- Give sufficient details for each item to make it difficult and unreasonable for the reviewers to arbitrarily suggest major cuts.
- For equipment, document convincingly why the piece is essential (not just "nice to have" or "faster and better"), and why the specified model is required.
- For personnel:
  - Make sure they are allowed.
  - Specify the unique and essential role that each will play, and state how their qualifications are matched with the role.
  - Avoid "to be named" if possible.
- For travel, specify who will travel and whether they will be presenting a paper. Also, justify a request for more than one meeting per year for any one person.
- Fellows do not provide a budget, except for the stipend.
- Grants need only provide a 'just-in-time' skeleton budget, but should include the above-suggested information on the Budget Justification page.
- Indirect Costs are a percentage of costs allowed by the funding institution. A typical formula for calculating indirect costs over two years for a \$70,000 per year grant is:

Formula:  $X + Y = Z$

$$\begin{array}{l}
 X = \text{Salary} + \text{Fringe} + \text{Project Costs} \\
 + Y = \text{Indirect Costs (10\% OF X)} \\
 \hline
 Z = \$70,000 \text{ (or less)}
 \end{array}$$

Example:	<u>Year 1</u>	<u>Year 2</u>
1. Salary .....	\$32,500	\$37,375
1. Fringe Benefits .....	\$17,500	\$20,125
2. Project Costs .....	\$13,637	\$ 6,135
3. Subtotal Lines (lines 1&2).....	\$63,637	\$63,635
4. Indirect Cost (up to 10% of project costs).....	<u>\$ 6,363</u>	<u>\$ 6,363</u>
5. Total Costs .....	\$70,000	\$69,998

**Alternative, Overlapping and Pending Projects**

- Be honest and complete. AHA has the means to verify this information from independent sources.

- Be careful if stating "no overlap." It may be more accurate to state "There are certain similarities in the systems and/or methods but there is no overlap in the budget, specific aims or objectives."

### **Attachments**

- Make sure that all required documents are included. If allowed, include material that is supportive but not integral to the contents of the application.
- **IMPORTANT:** Your application must stand on its own.
- Do not include documents if they are not required. They will not be distributed to the reviewers
- A common ploy is to attempt to extend beyond the page limit for the "Proposal" or the "Summary of Progress" by including an Appendix. This Appendix, unless specifically allowed, will not be distributed to the reviewers and may cause your application to be withdrawn for exceeding the page limitation. If the application is permitted to go forward, the lack of the Appendix may leave a "gap" or "hole" in your application if you refer to it in your text.
- Internet web site addresses (URLs) may not be used to provide information necessary to the review, because reviewers are under no obligation to view the internet sites. Moreover, the reviewers are cautioned that they should not directly access an internet site, as it could compromise their anonymity.

### **Publications**

- Unfortunately, many reviewers tend to "weigh" or "count" publications, rather than assess the quality, significance, and contribution of the applicant.
- Aim for a good number of first authored publications in first-order peer-reviewed journals.
- A high ratio of abstracts / full-length papers is not well received
- Other kinds of publications (books, chapters, reviews, non-peer reviewed articles) may not impress the reviewers.
- Publications should be relevant to the area you are researching. If this is not possible, i.e. you have recently changed your science focus, submit representative publications.
- If you don't have publications, state that in the application.

# FATAL FLAWS

## A Look at Common Errors Made

### By New Applicants

- The proposal includes a lifetime's work and is unrealistically ambitious.
- The proposal has no clearly defined priorities and the timetable (if present) is unrealistic, with no sense of what can realistically be accomplished during the term of the grant.
- The literature and background reviews are uncritical. They read like an undergraduate review.
- There are no results of pilot studies or other preliminary data.
- Inadequate time spent on the research project. The percentage effort spent on the research project should be sufficient and aligned with the allowable amount specified in the application instructions. Many fellowship programs require a minimum of 80% effort while grant programs can be 25% or lower. A low percentage effort (e.g.5%) by an established investigator may be deemed unacceptable by some peer review committees, especially in a highly competitive environment. Be sure to cross-verify the time spent on the project with the specific time required for the AHA research program for which you are applying - affiliate or national. If the percentage of effort appears low due to institutional restrictions, include an explanation.
- The budget is unrealistic.

### By Established Investigators

- The application is fragmented and disjointed. Different parts were obviously written by different junior colleagues and then hastily assembled by the applicant.
- "I don't have to go into detail. Trust me and examine my record of accomplishment. Rely on my reputation." This is unacceptable and will usually result in the downgrading of the applicant's score.
- The proposal is too cautious and does not venture into new and unexplored areas. It is just "more of the same."
- The application submitted was cut and pasted from a previous fellow's application. Fellowship applications often have solid input from the sponsor. However, the fellow must write the application. Therefore, sending the same application submitted by a previous fellowship applicant may result in the application being administratively withdrawn.

### Administrative Errors

- There is little sympathy in the research world for a proposal sent late. **You** are ultimately responsible for making sure that your application is completed and submitted on time to the appropriate location.
- **Never** entrust your completed application to an inexperienced administrative assistant or co-worker. Follow the status of your application from the sealing of box to its transport to the postal carrier or delivery service. Veteran researchers know that the only proof that an application was sent is the receipt provided by the - carrier.
- Applications not completed according to AHA's format requirements will not be accepted. That means characters per inch, lines per page, correct font, number of pages, etc. AHA staff is well trained to spot format inconsistencies.
- Word processed versions of applications later converted to Adobe Acrobat PDF files often mysteriously reformat themselves to an inappropriate number of pages. Do not waste hundreds of hours and thousands of dollars of staff time. Count and re-count the printed

Adobe document; measure and re-measure the printed Adobe document before you send your application. Remember: This is a competition and it begins **before** the deadline.

### **Resubmissions**

- Regardless of how you feel, do not insult the reviewers.
- If you differ in your opinion, try to courteously convince the reviewers of your point of view.
- In addition to responding to specific reviewer concerns, review all other aspects of the application to determine whether updating or improvement is called for or possible. Just because it was not criticized before is no guarantee it will not be criticized in the review of the revised application.
- When addressing a prior reviewer's comments, never be sarcastic if you feel that a reviewer is wrong or overlooked an aspect of your resubmission.
- Avoid over-editing your redeveloped proposal. Committee chairs try to have the same reviewers used during the first submission review the second and third submission. This does not always happen though. This is because: 1) your previous reviewers rotated off the committee or are transferred to a different committee, or 2) your application was moved to another committee because a conflict of interest was identified between your application and the previous reviewer committee.
- Just changing the name or attempting to submit an old project as a new one may result in a downgrade of your proposal.

### **Problems with significance**

- Not significant nor exciting nor new research
- Lack of compelling rationale
- Incremental and low impact research
- Innovation is not always necessary, but the results should have compelling significance.

### **Problems with specific aims**

- Too ambitious, too much work proposed
- Unfocused aims, unclear goals
- Limited aims and uncertain future directions

### **Problems with experimental approach**

- Too much unnecessary experimental detail
- Not enough detail on approaches, especially untested ones
- Not enough preliminary data to establish feasibility
- Feasibility of each aim not shown
- Little or no expertise with approach
- Lack of appropriate controls
- Not directly testing hypothesis
- Correlative or descriptive data
- Experiments not directed towards mechanisms
- No discussion of alternative models or hypotheses
- No discussion of potential pitfalls
- No discussion of interpretation of data

### **Problems with investigator**

- No demonstration of expertise or publications in approaches

- Low productivity, few recent papers
- No collaborators recruited or no letters from collaborators if they are needed. Adding collaborators where none are needed could create questions as to why they are included.

#### **Problems with environment**

- Little demonstration of institutional support
- Little or no start up package or necessary equipment

## **THE REVIEW PROCESS**

### **AHA's Screening and Review Process**

AHA's cycle begins with the deadline for the receipt of applications. The AHA rejects applications that arrive after the deadline. This applies to both the electronic and the paper deadlines.

Each application is screened, looking for obvious irregularities including:

- Missing critical information or signatures
- Inappropriate format (type size, spacing, margins, etc.)
- Number of pages exceeds that allowed
- Application does not "fit" with the mission / objectives of the agency
- Missing sections
- Applicant does not qualify for the program selected
- Extra (not required) information is included.

Depending on the seriousness of the irregularity, the application may be rejected, or further information will be solicited. If the missing information is requested, the applicant will be given a deadline for submitting it. Failure to submit the requested information may result in withdrawal or in an incomplete application being sent to reviewers, depending on what the requested item is.

Applications are then assigned to external reviewers. These are chosen from names recommended 1) by applicants, 2) by members of the review committees and 3) from the database in the agency. The external reviewers are asked to submit extensive written critiques, which are made available to the members of the appropriate review committee. Both the external reviewers and review committee members are required to provide:

- A concise summary of the proposal (no more than a single paragraph) emphasizing the significance of the proposed research.
- An evaluation of the work done previously as presented in a progress report (if applicable).
- An assessment of the strengths and weaknesses of the proposal, including an opinion regarding:
  - originality of the work or hypothesis presented and the significance of the questions asked
  - feasibility
  - relationship to the previous work done by the applicant
  - appropriateness of the critical review of the literature
  - scientific and intellectual environment
  - applicant's knowledge of the field as reflected in the literature reviewed
  - appropriateness of the research plan and methodology
  - significance of the work conducted previously and the potential of the proposed work to elucidate new and important knowledge
  - appropriateness of the budget
- Two critiques are prepared for each application. Each application is assigned to two members of the review committee for detailed analysis (the primary reviewers. Only two primary reviewers are required to study the entire application. Other members of the review committee may not receive the entire application. They may only receive the abstract/summary pages.

- At the meeting of the review committee:
  - Each application receives approximately 10 minutes of discussion.
  - The two primary reviewers introduce each application and give their evaluations. These critiques are analyzed and comments made.
  - Other committee members then participate in discussion.
  - A Final Score and/or Rating are made, after which a rank order for each application is determined based on scientific excellence.
  - Budget, ethical concerns, CV relevance, and funding issues are discussed after initial critiques are presented.
- The review committee then reports its recommendations to the Research Committee, which usually accepts the rank order determined by the review committee.
- There is usually painful discussion at the Research Committee level concerning the "trade off" of size of the AHA's budget per application vs. number of applications that can realistically be funded. This becomes most difficult when it is seen that the [is the cut off too high or too low?], with many very good applications being rejected. Demands for funding often far outweigh the funds available. Thus, many very good proposals will fall below the cut-off.

## **A WORD TO FELLOWSHIP APPLICANTS**

### **Career Goals**

- Be clear about your long-range professional, research and academic career goals. This refers to your career, not your proposed fellowship tenure.
- Describe the organization (e.g., academic, government, commercial) in which employment is planned, as well as the type of work (e.g., research, including area, teaching) to be pursued.
- Fellowships are intended to support individuals who are sincerely interested in pursuing a career in cardiovascular or stroke research. Therefore, you must describe the relationship between your career goals and the cardiovascular disease or stroke research. Failure to do so will result in the downgrading and/or disqualification of the application.

### **Training Goals**

- Describe the training goals under this fellowship and their relevance to your career goals.
- Identify skills, theories, and conceptual approaches that you hope to learn or enhance your understanding of during the period of award.
- Describe how the proposed activities, including the proposed research, will contribute to the achievement of this learning.
- Describe how these activities will prepare you for a career in cardiovascular or stroke research.

### **Research Experience**

- Summarize your research experience and describe problems studied and conclusions reached.
- If no research experience, list other scientific experience.
- Do not list academic courses as part of your research or scientific experience.
- Predoctoral Fellowship applicants: Describe any research activities that you have participated in as an undergraduate and graduate student, including experience in:

- research participation programs
- student-originated study programs
- research gained through summer or part-time employment
- research both within course work and outside of the classroom.
- Summarize, stating problems studied and conclusions reached.

## **Relevant Educational and Personal Experiences**

### **For Predoctoral Fellowship Applicants:**

- Describe any additional educational and personal experiences that are relevant to your career and training goals, as well as to the research plan described elsewhere in your application. Include in your statement:
  - participation in relevant volunteer and extracurricular activities;
  - professional work experience or work training experience;
  - any other significant accomplishments and background information.

### **For Postdoctoral Fellowship Applicants:**

- If you have written a doctoral dissertation, please be sure to provide a summary.

## **Chosen Institution**

- Explain why your chosen institution is especially suited to your field of study and to the research plan and training goals that you have described elsewhere in the application.
- Postdoctoral training is expected to broaden a fellow's perspective. Postdoctoral Fellowship applicants requesting training at their doctoral and/or current training institution should explain why further training at that institution is justified.

## **Cardiovascular Relevance**

- Discuss the significance of the proposed research, including its relevance to cardiovascular disease or stroke.
- Describe relevance of the proposed research to the cardiovascular area or stroke. Failure to establish cardiovascular relevance can result in disapproval of the application.

## **Respective Contributions**

- Specify the respective contributions to the development of the research plan presented in this application.
- Specify the following:
  - Who wrote the research proposal?
  - Is it part of a larger, ongoing project of the sponsor?
  - The AHA expects the research plan to be prepared by the trainee, with appropriate guidance from the sponsor.

## **Research Environment**

- It is incumbent upon the applicant and the sponsor to ensure that the discussion of the available facilities and major equipment is relevant to the proposed affiliate application.
- Make sure the resources and environment section addresses all requirements of the proposed research plan.
- Justify any reliance on resources external to the research.
- Make sure that proposed research personnel have the capability to perform the tasks assigned to them.

## **Letters of Reference**

- The wording or phrasing of these letters is critical. You should emphasize this to those who will write your letters.
- Letters should clearly state that the applicant is not just an extra "pair of hands," but has adequate resources to grow in a research environment.

## **TECHNICAL SUPPORT**

- Do not feel inhibited about requesting technical assistance from the funding agency or your institution.
- Talk to the program representative who will manage the grant for advice on scientific and technical issues and to the grants management specialist for advice on administrative issues.
- Your institutional grants office can also be of assistance. Talk to them and find out how they can help you.
- Do not wait until the last minute to request technical support from the AHA with downloading, uploading or policy questions.
- The earlier you can submit the better. You don't have to wait until fifteen minutes before the deadline.

## **ACKNOWLEDGMENTS**

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