

# Create a Winning Resubmission Application for NIH



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## Executive Summary

The National Institutes of Health (NIH) rejects most grant applications the first time around. In fact, the estimated initial rejection rate is 75 percent to 90 percent.

Fortunately, most NIH institutes encourage resubmissions, and an estimated 35 percent of resubmitted applications get funded. The trick is revising your application in a way that improves your chances for success.

If you're considering resubmission, take the following steps:

- Identify the reason(s) for rejection, and determine whether you are able to correct them.
- Decide if you *should* revise and resubmit.
- Look carefully at peer reviewer comments, and address them in your resubmission.
- Familiarize yourself with changes in the review process — such as page limit reductions — and adhere to these requirements.
- Write a strong introduction.
- Set the tone. Engage reviewers with a compelling abstract and strong, convincing early components in your proposal.
- Label the progression of ideas.
- Write in short sentences and paragraphs.
- Use properly labeled images and graphics to illustrate your ideas, data and plans.
- In the project design section, justify the project with sufficient evidence.
- Include specific background data.
- Ensure your outcomes/objectives are measurable, obtainable and specific.
- Create a complete budget narrative.
- Time your resubmission to an appropriate funding cycle.
- Where appropriate, use charts, timelines and other graphics to communicate your ideas.
- If you were rejected because of inexperience, add co-PIs or consultants to your resubmission. ■

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## Deciding to Revise and Resubmit

Upon receiving your rejection, analyze the peer reviewers' summary statements. Read them more than once to identify specific weaknesses and strengths in your application. Look for critiques mentioned repeatedly. You will likely see a pattern of issues to address.

Before deciding to resubmit, ask others to read the reviews — perhaps a senior faculty member in your department or the research administrator in your grants office. Their judgment may be more objective than yours. These individuals can help you identify and rank your proposal's weaknesses and strengths.

Then, ask yourself if the research is still relevant. If you wrote the application in response to a specific proposal request and an award hasn't been made, you may want to revise and resubmit it. If the specific award is no longer available, consider sending your application to a different funding program or institute.

Revising and resubmitting takes time and commitment, so the research should be meaningful to you. If it's not, you may want to start over with a different project.

### Identify the Reasons for Your Rejection

In a recent case study of 605 rejected NIH proposals, researchers found the three areas that attributed to rejection the most were:

1. Approach: 73 percent
2. Problem: 58 percent
3. Investigator: 55 percent

Other reasons included institutional setting, unrealistic budget requests, inadequate personnel, lack of PI time, unconvincing project and sloppy presentation.

In your resubmission, you should be able to address reviewers' issues with your experience, approach, research problem, budget requests, personnel and presentation. But be aware that you may not be able to remedy other problems, such as a lack of appropriate facilities, financial limitations or legal issues. ■

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## Revise Your Problem and Approach

Intellectual, scientific and academic issues with your application fall into the categories of approach and problem. And these are the most important items to address in a resubmission.

Reviewers may think your proposal is a great idea, but they won't approve it if your project does nothing to advance the discipline. They are looking for cutting edge research that is neither too narrow nor too broad in focus.

Perhaps your mistake is that you haven't done your homework with regard to literature research. You could unknowingly submit a proposal narrative that doesn't acknowledge what has already been done to solve the question you're trying to answer. That shows your inexperience.

### Strengthening Your Approach and Problem — Start Strong

Your introduction should clearly state why your project is important. Many proposals jump right into the project without explaining its relevance, urgency and need. Don't make that mistake.

In addition, reviewers will sometimes complain that your narrative sounds like a dissertation. It isn't sufficiently focused for this particular project. You must walk a fine line; your proposal must be comprehensive and specific at the same time.

Early in your application, put your question or problem in intellectual and scientific context within your discipline. Explain how you arrived at your methodology.

Don't say you used this method because it's what you learned in graduate school. Reviewers want to know you selected your methodology deliberately. Tell them you are aware of other methodologies, and explain why you are not using them in this instance.

### Adjust the Scope

When reviewers criticize project design, it is because aims are too large or too small. Your goals may be unattainable, or your question might be too narrowly focused. Perform a detailed analysis of data, previous research and relevant literature to determine an appropriate scope.

Narrow your objectives to focus on your project's outcomes. Reviewers don't want to see five, six or seven objectives and 14 aims. Specific aims should be focused.

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## **Demonstrate Need**

Throughout your application, show sufficient evidence to justify the need for your project. Listing your publications and literature isn't enough. Include specific data and background information that illustrates your project's importance.

Your specific aims must be directed at significant improvements in your discipline. These can include current holes in existing research and approaches using new technologies.

## **Show Your Methodology Is Workable**

Reviewers may object to your methodology because it is untried. Acknowledge you are using a new approach, but demonstrate that it is based on pilot studies or previous work. You have to convince reviewers your method will work.

Demonstrate your activities with a chart that includes a timeline for tasks, individuals responsible for the work, and the expected outcomes. Many first proposals focus on the science and do not delineate project logistics. ■

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## Compensate for Shortcomings

Reviewers may believe you are too inexperienced to execute your research effectively, your project's scale is inappropriate, or your institution can't contribute its share of project costs. But you can convince them otherwise by explaining how you will compensate for these problems.

### Counteract Inexperience

Junior investigators may be rejected because they haven't demonstrated they can follow through on the project. If you don't properly address all aspects of your application, reviewers will think you haven't worked with grant funding at all. Don't get carried away by the science in the application and overlook management, organization and staffing issues.

If reviewers rejected your application because you lack the appropriate degree(s) or management experience, there are ways to remedy this situation:

- **Enlist a senior co-investigator** who has the credentials and experience you lack. This could be a senior PI at your institution or a mentor from graduate school. This individual's input will also be useful when performing your actual research.
- **Become a subcontractor or partner** with a PI at another institution who is working on the same problem.
- **Add an outside consultant** who has more experience in the field.
- **Include a management plan** with an organizational chart. Define everyone's duties, explain project activities, and outline weekly or monthly goals. Time and task charts show you have the project under control.
- **Apply to a different NIH institute** where your credentials make you more eligible.

### Expand or Shrink Your Reach

Maybe reviewers' comments said your proposal was too localized. Try to reframe your question in a national context. Or offer your proposal as a case study to address a broader issue or larger population. Add co-PIs from other parts of the country or overseas to strengthen your resubmission and make its reach more expansive and comprehensive.

If reviewers think your proposal's scope is too broad, you can add co-investigators and divide up the work, narrow your project to focus on more specific goals or allow more time to complete it.

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## **Overcome Financial Limitations**

Occasionally, NIH rejects a proposal because your institution doesn't appear to have the resources to pick up its share of project costs.

If cost sharing is required, include information in your resubmission regarding how you will accomplish that. Outline in-kind contributions, such as staff and their hours, in detail. Or if your institution has agreed to put up money, specify how much and which department or third party is providing it. ■

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## Institutional Issues May Be Out of Your Control

If reviewers found fault with your institution, you often can't remedy that in a resubmission. The only options for overcoming institutional issues are changing universities or partnering with another institution that can adequately support your proposal. So keep that in mind if your application was rejected for the following reasons.

### **Inadequate Facilities, Personnel and Programs**

Reviewers may have rejected your proposal because you didn't demonstrate your institution has adequate facilities for the project to succeed. You may lack physical space, up-to-date laboratories, sufficient equipment or an adequate research library. Or if your institution doesn't have a graduate program in your field, reviewers might see that as an indicator of inadequate staff support.

### **Legal or Compliance Issues**

These might include an institutional audit or sanctions placed on your university by any number of agencies or organizations. Maybe your university has a poor record of compliance with federal agencies or regulations. If these issues aren't fixed, you won't receive funding.

### **Competition**

There are two major ways in which competition can work against you. Investigators from young, small institutions might lose out to experienced PIs from prestigious research universities. Conversely, if an NIH institute wants to fund smaller universities, larger ones are overlooked. ■

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## Correct Confusing or Unrealistic Budget Requests

Certain budget items — such as vague travel descriptions or consultants with credentials that don't relate to the proposal — tend to raise eyebrows among reviewers. NIH wants to know what it's paying for. Justify all project expenses with details.

If your budget request includes a computer, describe how it will be used for the project. If you are using a consultant, clarify what she will do and why it's necessary for the project. Provide details about her hourly or daily rate and any travel expenses. For employees, include tables delineating benefits, such as health benefits and paid time off, if applicable.

You should also link the items in your budget to the project narrative. If your budget includes a line item for travel to conferences, discuss the conferences in your narrative. Include the dates, the sponsoring organization, the cities, and the cost of airfare and other expenses. The U.S. Department of State publishes information on hotel rates at every city in the world.

Be sure to budget realistically. Say you're working in New York City and you've budgeted a \$16,000 annual salary for a full-time administrative assistant. Reviewers will notice that amount is unrealistic for that geographic region.

Lastly, match your indirect facilities and administrative costs to current NIH rates. The agency publishes updated rates on its website. ■

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## Presentation Is Everything

Occasionally, reviewers will reject a proposal because it's so badly written and formatted they can't get through it. Poor presentation isn't a justifiable reason for rejection, but if reviewers can't read your proposal, how can they comment on it or score it? Use the following tips to improve your presentation.

### Proofreading

Read through your resubmission, and give yourself time — a few hours or even a few days — between one reading and the next. Don't rely solely on your computer's spellcheck because it often doesn't recognize scientific words, places or individuals' names.

Have others — an experienced colleague or professional editor — proofread your application. They can spot errors in spelling, grammar and punctuation you may have missed. Proofreaders can also help you with proper word choices, especially if English is not your native language.

### Format

Make your narrative concise. Each page should be composed of several short paragraphs. Sentences should contain a maximum of 20 words. Short paragraphs help break up your ideas, and short sentences allow for better comprehension. If you can't avoid a long sentence, use shorter words.

On a related note, reviewers don't want to read long blocks of text with no logical progression of ideas. Use headings and subheadings to guide them through your application.

You can also break up the text with bullet points and relevant charts, graphs, or images that illustrate your text. Bullet points are ideal for conveying information in readable bites. If you use graphics, charts and/or images, make sure they are high quality and properly labeled.

### Follow the Rules

Don't forget that new rules limit your application to 12 pages. If your initial application was submitted under the old rules, it may be difficult to compress your ideas from 25 pages to 12. Consider enlisting an editor's help to condense the proposal by tightening language and providing shorter explanations.

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The new guidelines also require a data management plan. It must answer these questions:

- What data do you plan to collect?
- How and where will you store it?
- How will you make the data available to people outside your institution?
- How long do you plan to store the data? In what form or medium (electronically, on paper, etc.)?
- How will you protect proprietary information?
- What happens to the data when you leave the institution? ■

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## Additional Steps to Improve Your Resubmission

There are three steps you can take when revising your proposal to improve your chances of winning funding the second time around.

**1. Contact the Program Officer (PO).** Contacting the study section PO can help you learn why your application was rejected and what you can do to improve it.

Calling the PO is often more effective than emailing. When you have a conversation, you can frame the discussion. Open with a question like, “What advice can you offer that could help me?” This gets the conversation started, and you can ask follow-up questions from there.

**2. Review panel structure.** When you revise and resubmit, you can expect to have the same review panel as before. But if comments suggest you were submitting to the wrong institute, you might want to send your revision application to another study section.

NIH allows you to request a specific funding institute and review panel. Research reviewers’ backgrounds, expertise, academic degrees and publications. This will help you determine who knows your discipline and can best understand your application. Reference their work in your application if it is related to your project. But, of course, you should not attempt to influence reviewers because this could jeopardize your application and damage your reputation.

**3. Continue working on the project, if possible, to accumulate sufficient preliminary results.** If reviewer comments suggest you were rejected because of insufficient preliminary results, include as much new data as possible in your resubmission.

Data acquired in the six months or so since your initial rejection shows you are committed to the project and continued working on it without external funding. If you can’t demonstrate additional preliminary results, you may be rejected a second time. ■

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## Frequently Asked Questions About Resubmission

### ***How does the new resubmission policy change past practice?***

Previously, an application could be revised and resubmitted twice. Now, you can revise and resubmit only once.

### ***How does NIH determine whether an application is new or a resubmission?***

A new application should be substantially different in content and scope, with more significant differences than are normally encountered in a resubmitted application. If you reworded the Specific Aims or incorporated changes in response to reviewer comments, your application is a resubmission.

A new application, on the other hand, will include substantial changes in all sections of the research plan, particularly in the Specific Aims, research design, and methods sections. It will have fundamental changes in the questions asked and/or outcomes examined. Modifications to the research plan should produce a significant change in direction and approach for the project.

### ***Who at NIH is involved in deciding if an application is new or a resubmission?***

Applications are screened multiple times and checked to determine if they are new. The first check is done within the Division of Receipt and Referral in the Center for Scientific Review. The scientific review officer, reviewers and NIH program staff perform subsequent checks.

### ***How are disagreements handled?***

If there is disagreement about whether an application is new or resubmitted, Center for Scientific Review staff may refer it to a committee of NIH scientists to conduct further analysis and provide recommendations.

The committee will analyze previous applications and summary statements to determine similarities and differences. Individual institutes have their own evaluation processes. When an application is classified as a version of one that has already received two reviews, it is withdrawn and not reviewed. The Division of Receipt and Referral informs the PI and institution of this determination.

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### ***How are resubmission applications reviewed?***

The resubmission status of an application is considered only as an additional review criterion. As such, it is considered during the determination of scientific and technical merit and can influence the Overall Impact score, but it does not impact the five scored criteria. ■