

# Grant Application Basics



From the National Institute of Allergy  
and Infectious Diseases'  
[All About Grants](#) Series

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## What Is NIH Looking For?

To write a successful NIH grant application, you'll need to understand the NIH granting philosophy. With the goal of improving public health, NIH funds the best scientific research projects applicants send us, as many as we can within our budget. Our peer review system evaluates each project for its merit--NIH does not give money to investigators simply because they are established or well known. In general, the scientific quality of a project is the factor that determines whether it is funded.

But proposing elegant science is not enough. To get a fundable score in peer review, you must also have the means to accomplish the work. In addition to judging



whether the science is compelling, reviewers will assess whether you and your institution have the expertise and resources to get the job done. Are you, the principal investigator (PI), and your colleagues qualified to do the work? Does your institution have equipment and personnel to support you? Does your institution allow you enough time to accomplish the research? And while all these things may be in your favor, reviewers can't read minds. If you don't write the information into your application, it might as

well not exist.

Further, your project must be unique. By law, NIH cannot support a project already funded or pay for research already done. And you may not send the same application to more than one Public Health Service (PHS) at the same time.

## Who Can Qualify for an NIH Grant?

Any qualified scientist working in a research institution that can furnish the needed support can receive an NIH grant. Reviewers look at both your credentials and those of your institution to determine whether you are likely to be able to accomplish the work you've proposed in your application. To meet their expectations, you'll need academic credentials and experience appropriate to the proposal. Your institution must have equipment, personnel, and space and give you enough time to accomplish your project. For new investigators, reviewers do not expect a long track record of publications and research or advanced job standing. But they will look closely at academic and research background.



Though you will conceive of and write your application, your institution is the actual grantee for most grant types (two exceptions are fellowships and career awards). In practice, you both share responsibilities. Your institution's business office is legally responsible for the performance and financial aspects of the grant and signs all the paperwork, usually with you. As PI, you direct the research.

To become either a grantee institution or a PI, you don't need U.S. affiliation or citizenship, although most NIH grants are awarded to domestic institutions. There's an extra review step for foreign institutions: reviewers assess whether comparable work is being done in the U.S. If it is, the grant will not likely be funded. However, highly qualified foreign applicants who have unique expertise or resources not available in the U.S. have a good chance of getting an award. For most training-type awards, you need U.S. permanent residency status (a 'green card').

## Overview of the Application Process



Your application starts its journey at the NIH receipt office, then goes through two tiers of review. After the initial peer review, it moves to an institute for second-level review and to a scientific program in that institute, if it's funded. See our diagram [application process overview](#).

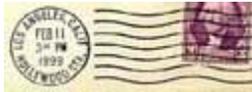
1. NIH receives most application types three times a year: February 1, June 1, and October 1.
2. The NIH Center for Scientific Review (CSR) receives your application, logs it in, and gives it a unique ID number.
3. CSR assigns your application to one of its integrated review groups (IRG) for initial peer review of most grant types or to NIAID if it's responding to a request for applications (RFA).
4. CSR also assigns your application to NIAID for possible funding, notifying you within six weeks of these assignments. Alternatively, you can request both assignments.
5. CSR mails applications to reviewers to read and asks them to streamline the list of applications.
6. Your application undergoes initial peer review in CSR or in NIAID.
7. You receive a summary statement with the review results six to eight weeks after the review.
8. After the review, your application moves to the assigned NIAID program, where it will be housed if funded.
9. At NIAID, your application undergoes second-level review by our main advisory Council.
10. NIAID decides which applications to fund based largely on scientific merit. NIAID program staff send you a letter with the outcome within six weeks of Council, if second-level review is expedited.
11. If your application is fundable, staff in NIAID's Grants Management Branch negotiate an award with you. They'll send

you the notice of grant award within six weeks of Council approval.

12. If your application did not get funded, you can revise it based on the feedback from the review and resubmit it for another review.

## When Applications are Due

Most grant types have three due dates per year: February 1, June 1, and October 1. However, AIDS applications, small business, and some other types have different due dates. See the [Standard Receipt Dates Review and Award Cycles](#) for all NIH receipt dates.



An investigator-initiated application must be mailed so it's post marked by the due date. The rules are different for applications responding to initiatives: they must be postmarked one week before the receipt date. If you're not sure about the deadline, call an NIAID program officer.

## Applications Are Assigned to an Institute and IRG



After you've mailed your application to NIH, CSR gives it a unique identifier and assigns it to an IRG for review and to an NIH institute or center (IC) for funding. You can let CSR referral officers determine where the application will go, or you can request these assignments in your application cover letter. To see areas covered by the CSR study sections, go to CSR's [Scientific Areas of Integrated Review Groups](#).

If you get an assignment from CSR you're not happy with, you can request a change.

## Applications Get an ID Number



After the assignment is made, CSR will give your application a unique identification number that looks like this: 1 R01 AI83723 01 A1 S1.

Activity Code	Administering Organization	Application Type	Serial No.	Suffix Year	Grant	Other
R01	AI	1	83723	01	A1	S1

Each entry tells another snippet of information about your application.

- The first number is the application type (e.g., new is Type 1), which tells NIH whether your application is new, a renewal, a noncompeting application or other type. Application types are listed in our [Glossary](#).
- Next is the activity code, the type of grant you've applied for, e.g., a research project grant is an R01. For a list of grant types NIAID supports, go to the [NIAID Extramural Funding Mechanisms page](#).
- The next two-letter abbreviation is the IC code; NIAID's code is AI.
- Next is the unique serial number assigned by CSR.
- Then comes the suffix showing the support year for the grant.
- Finally is a code for a supplement, amendment, or a fellowship institutional allowance.

## Initial Peer Review Assesses Quality of the Application

Your application's most significant test is initial peer review. Your peers -- successful scientists in your field and related ones -- will gather together to evaluate your proposal and give it a numerical value indicating their judgment of its quality. They use the information you have provided in your grant application to assess the quality of the science you've proposed and your ability as the PI to get the work done. NIH's peer review system is complex and can be challenging to understand and navigate. We've designed the following sections to clarify the subject.



## Who Peer Reviews Your Application?

NIH peer reviewers are scientists, mostly from academia, who come to NIH three times a year for several days to review applications. The review committee chair who leads the discussions is a member of the committee. If you're in a sizable research institution, some of the people around you will be active or former peer reviewers; they are excellent sources of advice for writing an application.

In contrast, the scientific review administrator (SRA) who manages the review committee is a government staff member, generally with a Ph.D. in a relevant field of science. SRAs recruit members, inform them of the latest policies, and perform administrative functions, such as creating the list of



streamlined applications and writing summary statements.

Depending on grant type, initial peer review meetings take place in either CSR or an institute. The process is virtually identical in both venues in terms of policy, review criteria, committee composition, conduct of the meetings, and size of the group -- about 20 members. Standard research project grants, called R01, are reviewed by CSR.

CSR's review committees, called study sections, are structured by broader scientific area into about 20 umbrella organizations, the integrated review groups. Each IRG houses five or six study sections, which have a much narrower scientific focus. In addition to the standing review committees, CSR also organizes special expertise panels when special qualifications are needed.

Go to the lists of [CSR review rosters](#) to see who is on a standing study section. *NIAID Council News* maintains a [list of study sections that review NIAID applications](#).

NIAID also has [chartered review committees](#): AIDS; Allergy, Immunology, and Transplantation; and Microbiology and Infectious Diseases. Our committees review applications for program projects, cooperative agreements, training, and research career grants, and applications responding to some RFAs. For many of our RFAs, we set up special review groups that have knowledge relevant to the initiative.

## NIH Has Five Review Criteria

When assessing the scientific merit of an application, all NIH review committees use the same criteria:

- Significance: ability of the project to improve health
- Approach: feasibility of your methods and appropriateness of the budget
- Innovation: originality of your approach
- Investigator: training and experience of investigators
- Environment: suitability of facilities and adequacy of support from your institution

Though peer reviewers don't score applications strictly by review criteria, the criteria are gauges for assessing scientific merit and feasibility. In writing your application, think of your goal as a quest to convince peer reviewers your proposal is important, your approach is logical and innovative, you have the resources to do the job, and you and your collaborators are qualified to accomplish the research.



Also keep in mind that, to a large extent, reviewers judge your application against their ideal outstanding application *in your field of science*. This is analogous to a

dog show, where breeds are judged against their own standard for their breed, but different breeds do not compete with each other.

## Other Factors Play a Role in Review

As part of initial peer review, your reviewers will look at other factors besides the review criteria. Depending on the experiments you propose, they will make sure you have complied with NIH policies for recombinant DNA research and human and animal subjects. Although these factors won't affect your priority score, your research will not be funded if it doesn't meet NIH requirements.



Your presentation can also make or break your application. Though reviewers assess science, they are also influenced by the writing and appearance of your application. If there are lots of typos and internal inconsistencies in the document, your score can suffer.

## Reviewers Are Fair, But Not Always Right

Bias is an extremely rare problem in review. Reviewers themselves all go through the same process you're going through now. If they aren't fair to you, how could they expect to be treated fairly themselves? If anything, experience shows that reviewers have tried to capture more funds for their field by giving applications increasingly better scores. Further, reviewers and scientific review administrators are alert to bias and will argue vigorously against it if they perceive a competitor is not being fair.



Though reviewers generally are fair, they are not always right. They do their best based on the knowledge they have but could miss a point or misunderstand what you've written. For this reason, you'll need to do a great job of writing and organizing your application.

Review materials are confidential. Reviewers are not allowed to divulge any information outside the meeting, and at the end of the meeting, NIH staff collects and destroys all materials used in the review. Additionally, reviewers sign conflict of interest statements showing they don't have a financial or other interest in your work.

## Foreign Applications Have More Review Criteria



In addition to the regular review criteria, reviewers rate foreign applications for their ability to bring in talent or resources not available in the U.S. or to augment U.S. resources. Foreign

applications have a good chance of getting funded if either the expertise or resources are not available here -- for example, access to a unique study population.

Reviewers will check whether a foreign application proposes research similar to that being done by U.S. investigators and whether there is a need for the research. If similar research is being done, the application will suffer in review.

## Preparing for the Peer Review Meeting

### SRAs Assess Completeness, Assign Reviewers

Before the SRA sends your application to the review committee, he or she looks at it to make sure it's complete. If you are missing anything, the SRA may contact you. If this happens, use the opportunity to strengthen your application. Send it quickly so the reviewers get the information in time to look at it before the review.

Four to six weeks before the meeting, the SRA sends each committee member a copy of the applications to be reviewed. At that time, the SRA assigns primary, secondary, and possibly tertiary reviewers. These are the people who read your application thoroughly and write a critique of it before the meeting. The SRA may also ask one or more members to serve as readers, who identify strengths and weaknesses of the application.

### Most Reviewers Scan Each Application

Though peer reviewers other than the primary and secondary reviewers may read your application before the review, most often they do not. Most reviewers will likely scan your application, reading only your abstract, significance, and specific aims. Reviewers receive dozens of lengthy applications for each meeting, totaling thousands of pieces of paper to read in a few weeks -- and these people have full-time jobs! In reality, they couldn't possibly read it all in depth.



So keep in mind that possibly only two people will have carefully read through your application even though all twenty will vote on it. We'll tell you how to write and organize your specific aims for both audiences in the [How to Write a Grant](#) section of this site.

### Noncompetitive Applications Get a Streamlined Review

NIH uses a process called streamlining so reviewers can focus on applications that have a chance of being funded. Review committees don't review any application the group unanimously feels is in the lower half. Since no institute has a 50 percentile payline, these applications are simply not competitive.



Starting this process one week before the study section meets, the SRA asks members for a list of applications they feel should not be reviewed and prepares a combined list. If any reviewer disagrees with a call, the group will review that application. The applications on the list are not discussed at the meeting and do not receive a priority score. Rather, applicants get a short summary statement with the reviewers' critiques they can use to amend the application and try again.

## At the Peer Review Meeting

### Basic Layout of Initial Peer Review



CSR review committees gather three times a year for a one- to three-day meeting. The meeting takes place four to five months after the NIH receipt date for applications other than AIDS, one to two months later for AIDS applications.

At the meeting, the SRAs make sure the group adheres to policy and procedure. The group's chairperson, a committee member, facilitates the discussions. Though they may not participate in the discussion, institute program staff may attend the meeting and later can become a source of additional insight into what reviewers said.

### Primary and Secondary Reviewers Make Your Case

After the SRA opens the meeting, the primary reviewer presents your application to the group. The group explores differences of opinion, interacting heavily during the discussion, which generally lasts 10 to 15 minutes.



In our [How to Write a Grant](#) section, we'll tell you how to turn your primary and secondary reviewers into your allies by writing your application so your primary reviewer becomes your advocate. Because time is short, other reviewers will likely

focus on your abstract, significance, and specific aims only. They'll ask the primary reviewers questions and skim the application during the discussion. So it is key that you have made a strong case for why we should fund you and have presented your work so the primary reviewer can readily grasp and explain your proposal. Generally, once the members have found a fatal flaw they all agree to, they will stop discussing the application. Examples of fatal flaws are not protecting the safety of lab workers

or animals, proposing too much work for the award time, not recognizing a key paper in the field, or including a factual inaccuracy.

## Revised Applications are Reviewed Differently



If you're sending in an application you revised based on reviewers' comments from the last review, the reviewers will evaluate your response to their comments. You should carefully address the comments point by point and make the new text easy to distinguish.

Unfortunately, this approach is not a guarantee of success for several reasons: the reviewers are not wedded to the critiques and new reviewers in the group may disagree with previous comments or raise new criticisms. Further, because a summary statement is not an exhaustive critique of your proposal, it does not necessarily list all problems reviewers may feel pertain to your application. With those caveats in mind, take heart that many people get funded after revising.

## Peer Review Outcomes

### Reviews Yield Tangible Results



Reviews yield tangible results for each application. Applications in the upper half of those being reviewed receive a priority score and summary statement. NIH mails applicants this information within six weeks of the meeting. In addition to scientific merit, the committee recommends the number of years to be funded and the amount of money it feels is appropriate.

Reviewers comment on things in addition to your score that generally do not affect your score. They discuss the appropriateness of your proposed budget and may recommend changes. Further, they may move to have codes added to reflect their concerns about human subjects, animals, or biohazards. If you see a code on your summary statement, it means we can't give you an award until the issue is resolved. Call your program officer (PO) for advice if this happens to you.

### Each Member Assigns a Priority Score



Reflecting the reviewers' judgment of the quality of your application, the priority score is an essential review outcome. After the discussion of your application is over, the primary and secondary reviewers suggest a priority score. However, this is just a suggestion. When voting, each member marks his or her priority score privately on a

scoring sheet, assigning a number from one to five where 1.0 is the best and 5.0 is the worst. At the end of the meeting, the scientific review administrator collects scoring sheets and compiles the priority score. Each vote counts equally. Your priority score is the average of these scores multiplied by 100. For R01s and some other grant types, NIH converts the priority score into a percentile.

## Percentiles Indicate Relative Rank

NIH turns your priority score into a percentile to arrive at its rank relative to the other applications reviewed by your study section at its last three meetings. In contrast to usual mathematical practice, at NIH, lower numbers indicate better scores. They range from .5 (best) to 99.5 (worst). A percentile roughly translates to the percentage of applications receiving a better priority score during a one-year interval.



Why does NIH do this? About fifteen years ago, NIH began using percentiling to counter a trend called priority score creep. In their efforts to gain more money for their fields, study sections were increasingly giving applications better priority scores to the point where the scores had little meaning. Percentiles counter this trend by comparing scores within a study section.

For grant types that are percentiled, such as the R01, you should pay closer attention to the percentile than the priority score.

## When You Can Expect to Hear Back

NIH mails summary statements to you and your program officer roughly six to eight weeks after the review meeting. After you get your summary statement is a good time to call your NIAID program officer. Ask whether your application is likely to be funded and whether he or she can give you more feedback from the review if funding is not on the horizon.



## Know What a Summary Statement Means



The SRA prepares a summary statement for applications considered to be competitive for funding -- i.e., those given a full review and a priority score by the review committee.

Your summary statement holds a wealth of information: reviewer critiques, summary of the discussion, priority score, percentile, recommended budget, human and animal subjects codes, and any administrative comments. NIH mails it to you with the study section

roster, which lists reviewers but does not identify which reviewers were assigned to your application, to protect confidentiality. If you have any questions about your summary statement, call the program officer listed in your mailer.

A summary statement is not meant to be an exhaustive critique. Instead, it hits the highlights of the review discussion, providing general feedback. You'll use this information to revise the application, if necessary. However, keep in mind that the summary statement is not a teaching tool containing every point reviewers found to be problematic.

## If the Application Is Unscored, Has Risks, Lacks Information



Three types of applications do not receive a full review, priority score, or summary statement.

**Unscored:** Applications whose merit is unanimously judged to be in the bottom half of the applications being reviewed by an IRG, i.e., having a priority scores 3.0 to 5.0. Under streamlined review, applications undergo a preliminary evaluation to determine scientific merit relative to the other applications being reviewed. Applications in the bottom half are not discussed and do not receive a score. Applicants receive an abbreviated summary statement composed of the assigned reviewers' comments. Though the application may have scientific merit, it is judged to have no chance of being funded relative to other applications.

**Not Recommended For Further Consideration (NFRC):** Used for applications that are unacceptable due to risks or inadequate protections against risks. The application cannot be funded.

**Deferred:** If the initial review group cannot determine scientific merit because of inadequate information in the application, it can ask to defer the application to allow the applicant to send in the information. A deferred application is ordinarily reviewed at the next review cycle. However, if the information can be obtained immediately from the applicant, the review can proceed without delay.

A second reason your application may be deferred until later in the fiscal year is for funding. This decision is made by NIAID and is not a review outcome.

## After Peer Review

### How Long Till You Get Your Grant?

After the initial peer review, your application moves physically from CSR (for applications reviewed there) to NIAID for possible funding.



At that point, your contact person becomes the Institute program officer assigned to your application. His or her name is listed on the mailer you received with your summary statement.

Though applying for a grant is inevitably a lengthy process, its exact duration depends on several things. It takes about four months from the time you submitted your application to get your review results and another three to five months to get your award. For an investigator-initiated application, we can issue an award a few weeks after the initial peer review if it qualifies for expedited second-level review, i.e., has a percentile within the payline (a percentile- or priority score-based funding cutoff point) and no concerns identified by the study section or our advisory Council. The remaining applicants must wait for the Council meeting for their second-level review. Additionally, AIDS applications are on a shorter track due to a delayed receipt date.

## What to Do if You Aren't Happy With the Outcome



If you're not satisfied with your peer review, you need to assess what the problems were. See our sections on [What to Do If You Did Not Succeed](#). Though you can appeal a review for errors in the review itself -- not scientific opinion -- we strongly advise against it. Appealing wastes time. Even if you win an appeal, you will still have to revise and resubmit your application, which you could have done in the first place.

## How Funding Is Decided

### How NIAID Determines Which Applications to Fund



At NIAID, the most important factor determining whether you get a grant is scientific quality, as judged by the initial peer reviewers. For R01 applications, NIAID awards grants in strict percentile or priority score order (depending on grant type) until we reach the cutoff point, called the payline.

This approach varies by institute; if your application is assigned to another IC, find out its approach. For RFAs, we fund applications in priority score order until the money set aside for it runs out.

By law, all applications must be approved by another body, usually our main advisory Council, before we can fund them. In addition to grants within the payline, NIAID's advisory Council approves some programmatically important applications beyond the payline -- a process called selective pay.

We also have a bridge award program, which can provide an investigator with funds to improve an R01 application that was not funded. As with selective pay, NIAID program officers nominate bridge award applications to Council for approval. For both programs, we consider the relevance of a project to our mission in addition to its scientific merit.

We publish our paylines and the amount of money we set aside each year for selective pay and bridge awards on our [budget Web page](#).

## Second-Level Review Is a Smaller Hurdle

Your biggest hurdle is initial peer review. Once you've cleared that, the second-level review is a minor step that largely ensures there are no administrative problems with the application. Most applications sail through without any scrutiny at all.

Second-level review is not a second scientific review and does not repeat the work of the initial review. Rather, it looks at applications with potential barriers to funding, including human subject and animal concerns - remember those codes added by the study section. Generally, our main advisory Council will not approve your application for funding until the study sections' concerns are resolved. This usually means you must send us more information. Call your program officer quickly if you see these codes on your summary statement.



In addition, NIAID's Council recommends funding for programmatically important applications whose scores are just beyond the payline, a process called selective pay, and approves bridge awards. By law, Council must approve all applications before we can fund them.

## Second-Level Review Is Faster for Some Applications

If your application ranks within the payline and has no concerns (e.g., human or animal codes) identified by the study section, it gets an expedited review. This is done electronically about three weeks after the initial peer review by a subset of Council members. Expedited review lets you get an award earlier: we can fund your grant a few weeks after the review meeting, before the regularly scheduled Council meeting.



The remaining applications have a regular second-level review at the Council meeting. Council will look at any policy issues or other problems, and NIAID will make all awards approved by Council a few weeks after the meeting.

## Second-Level Review Yields Four Possible Outcomes

Following Council review, NIAID takes one of four actions for an application:

- Approved for funding.
- Primary responsibility transferred to another IC that agrees to fund it.
- Deferred for later funding decision, usually at the end of the fiscal year.
- Not funded; file is closed.



If your application is approved, you'll hear in six weeks and will be contacted by NIAID grants management staff who will negotiate your award with you. If your application is not funded or deferred for funding until later in the fiscal year, call your program officer for advice. Ask whether it's worth revising and resubmitting it for the next review cycle.

NIAID defers some applications until later in the fiscal year because if we paid too many applications at the beginning of the fiscal year, it could prevent us from funding better applications later. Typically, we defer decisions for borderline applications until after the third review cycle in June or July. If funds are still available, we will fund these applications in percentile order.

## Paylines Are a Conservative Funding Cut Point

The payline is a funding cut-off point NIAID sets at the beginning of the fiscal year, which starts on October 1, based on the number of grants we expect to fund. Recognizing the diversity of our large grant portfolio, we use a payline as the most evenhanded way to make funding decisions. A numerical value lets us cut across disciplines, allowing us to fund the best science as determined by peer review.



We set the payline conservatively so as not to penalize applications coming in from later review rounds. At the beginning of the fiscal year, we fund all applications with scores within the payline and defer many others to later in the year. At year's end when we have a clearer budget picture, we award quite a few more grants, raising the payline. Because many applications are deferred until the end of the fiscal year, you may have to wait until then to get your award, if your score is at the payline margin.

Paylines vary among NIH ICs, so a percentile that is not fundable in one institute may be fundable in another. You can improve your likelihood of getting an award by requesting that your application receive primary or secondary assignment to the IC with the highest payline.

For R01 grants, NIAID sets a percentile-based payline. For some grants, such as fellowships and small business awards, we use a priority score-based payline. In

addition to paying grants within paylines, we fund some high-priority selective pay grants, as described in the section [How NIAID Determines Which Applications to Fund](#). NIAID's paylines are on the Web.

**See our other tutorials on the main [All About Grants](#) page.**