

NIH R21 Cheat Sheet

Applicants should use the MOST RECENT funding announcement. Please check the “Release/Posted Date” in the “Key Dates” section of the RFA/PA to ensure that it is up to date.

NOTE: Individual FOAs may contain specific instructions about content, format, or length that differ from the general instructions provided by the NIH on its website and in the SF424 (R&R). In these instances, individual FOA instructions take precedence.

1. Links to Exploratory/Developmental Research Grant (R21) Parent Announcements:

- Clinical Trial Not Allowed: [PA-20-195](#)
- Clinical Trial Required: [PA-20-194](#)
- Basic Experimental Studies with Humans Required: [PA-20-196](#)

2. Check the actual funding announcement to which you are responding to see if standard due dates apply (sometimes dates vary).

3. R21 Standard Due Dates:

Cycle 1: February 16 (AIDS/ AIDS Related: May 7)

Cycle 2: June 16 (AIDS/ AIDS Related: September 7)

Cycle 3: October 16 (AIDS/ AIDS Related: January 7)

4. Other Important Dates:

Scientific Merit Review Dates

Cycle 1: June - July

Cycle 2: October - November

Cycle 3: February – March

Advisory Council Review Dates

Cycle 1: August or October

Cycle 2: January - February

Cycle 3: May – June

Earliest Project Start Date

Cycle 1: September or December

Cycle 2: April

Cycle 3: July

5. Check your announcement to see if single or multiple Principal Investigators (PIs) are allowed. For applications designating multiple PDs/PIs, a **Multiple PD/PI Leadership Plan** must be included. For more information about Multiple PD/PIs, please go to http://grants.nih.gov/grants/multi_pi/faq.htm.

6. Purpose and scope: The R21 is intended to encourage exploratory/developmental research by providing support for the early and conceptual stages of project development. Through this program, the NIH seeks to foster the introduction of novel scientific ideas, model systems, tools, agents, targets, and technologies that have the potential to substantially advance biomedical, behavioral, and clinical research. This includes:

- Exploratory, novel studies that break new ground or extend previous discoveries toward new directions or applications.
- High-risk, high-reward studies that may lead to a breakthrough in a particular area, or result in novel techniques, agents, methodologies, models, or applications that will impact biomedical, behavioral, or clinical research.

Projects should be distinct from those supported through the traditional R01 code. *Long-term projects, or projects designed to increase knowledge in a well-established area, are not appropriate for this FOA.*

7. Budget Information: You may request a project period of up to 2 years. The combined budget for direct costs for the two-year project period may not exceed \$275,000. No more than \$200,000 may be requested in any single year. **Individual FOAs may require additional budget information.** **Review the Application and Submission Information section of the FOA for detailed instructions.**

8. Title: Limited to **200 characters** (includes spaces and punctuation marks).

9. Project Summary (Abstract):

- No longer than **30 lines of text**.
- Succinct and accurate description of the proposed work, able to stand on its own (separate from the application). Should be informative to other persons working in the same or related fields and understandable to a scientifically literate reader. Avoid both descriptions of past accomplishments and the use of the first person.
- State the application's broad, long-term objectives and specific aims, making reference to the health relatedness of the project (i.e., relevance to the mission of the agency). Describe the research design and methods for achieving the stated goals. Be sure that the project summary reflects the key focus of the proposed project so that the application can be appropriately categorized. Do not include proprietary, confidential information or trade

secrets in the project summary. If the application is funded, the project summary will be entered into an NIH database and made available on the NIH Research Portfolio Online Reporting Tool (RePORT) and will become public information. Note that the "Project Summary/Abstract" attachment is not same as the "Research Strategy" attachment.

10. Project Narrative:

- No more than **3 sentences**.
- Describe the **relevance to public health**: how, in the short or long term, the research would contribute to fundamental knowledge about the nature and behavior of living systems and/or the application of that knowledge to enhance health, lengthen life, and reduce illness and disability. If the application is funded, this public health relevance statement will be combined with the project summary (above) and will become public information.

10. Biographical Sketch:

NOTE: The summary below covers applications with due dates before January 25, 2022. For applications due on or after January 25, 2022, please see the [updated instructions on the NIH's website](#).

Use the sample format on the Biographical Sketch Format Page to prepare this section:

<http://grants.nih.gov/grants/forms/biosketch.htm>

- Each biosketch is limited to **5 pages**, including the table at the top of the first page.
- **Education:** begin with baccalaureate information.
- **"Personal Statement:"** Briefly describe why your experience and qualifications make you particularly **well-suited for your role** on this project.
- You may cite up to **four** publications or research products. You may cite interim research products, which have specific citation requirements. See related [Frequently Asked Questions](#) for more information. (NOT including publications that have been submitted or are in preparation).
- If you are citing NIH-funded studies in your publications section of your biosketch, and if these publications fall under the NIH Public Access Policy (<http://publicaccess.nih.gov/>), provide the NIH Manuscript Submission reference number (e.g., NIHMS97531) or Pubmed Central reference number or **PMCID** (e.g., PMCID234567). More information can be found here: http://www.nlm.nih.gov/pubs/techbull/so08/so08_skill_kit_pmcid.html.
- The NIH Public Access Policy applies to all peer-reviewed articles accepted for publication on or after April 7, 2008 and onward. See <http://publicaccess.nih.gov/> for more details.
- If the PMCID is not yet available because it is in process, then state "PMC Journal – In Process." A list of the journals can be found here:
http://publicaccess.nih.gov/submit_process_journals.htm.

- You may provide a URL to a full list of your published work. URL must be to a .gov website. NIH recommends using [My Bibliography](#). Providing a URL to a list of published work is not required.
- **Research Support:** List *selected* ongoing and completed (during the *last three years*) research projects (Federal or non-Federal support). Begin with the projects that are *most relevant* to the research proposed in this application. Briefly indicate the overall goals of the projects and your overall responsibilities. *Do not include number of person months or direct costs.*

11. Specific Aims:

- **1-page limit.** The Specific Aims do NOT count toward your Research Strategy, which has a 6-page limit.
- **Concisely** state the goals of the proposed research.
- Summarize the expected outcomes, including **impact** of research on fields involved.
- **Succinctly** list objectives of proposed research (e.g., to test a hypothesis, create a novel design, solve a specific problem, etc.).

12. Research Strategy:

- Cannot exceed **6 pages** (for R21s; page limits for other grant types will vary. Please see the [NIH Table of Page Limits](#) for other grant mechanisms.)
- This section includes three headings: **Significance, Innovation, and Approach.**

→ For this particular activity code, note the following: the R21 exploratory/developmental grant supports investigation of novel scientific ideas or new model systems, tools, or technologies that have the potential for significant impact on biomedical or biobehavioral research. An R21 grant application need not have extensive background material or preliminary information. Accordingly, reviewers will emphasize the conceptual framework, the level of innovation, and the potential to significantly advance our knowledge or understanding. Appropriate justification for the proposed work can be provided through literature citations, data from other sources, or, when available, from investigator-generated data. Preliminary data are not required for R21 applications; however, they may be included if available.

A. Significance:

- Explain the **importance** of the problem or critical barrier to progress in the field that the proposed project addresses.
- Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in **one or more broad fields.**
- Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this **field will be changed** if the proposed aims are achieved.

B. Innovation:

- Explain how the application **challenges** and seeks to **shift** current research or clinical practice paradigms.
- Describe any **novel** theoretical concepts, approaches or methodologies, instrumentation or intervention(s) to be developed or used, and any **advantage over existing** methodologies, instrumentation or intervention(s).
- Explain any **refinements, improvements, or new applications** of theoretical concepts, approaches or methodologies, instrumentation or interventions.

C. Approach:

- Include **Preliminary Studies/Progress Report** in “Approach” Section
- Describe the **overall strategy, methodology, and analyses** to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed, and interpreted and any resource sharing plans as appropriate.
- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
- If the project is in the early stages of development, describe any **strategy to establish feasibility**, and address the management of any **high-risk aspects** of the proposed work.
- Point out any procedures, situations, or materials that may be **hazardous to personnel** and precautions to be exercised.

13. Other Sections:

- Cover Letter: NIH suggests that you **request a specific Institute/Center** and a **specific review committee**. *Check with the project officer listed on the funding announcement for advice on this.*
- Facilities and Other Resources: PIs must identify facilities used, their capacities, pertinent capabilities, relative proximity and extent of availability to the project. Describe how the scientific environment in which the research will be conducted contributes to the probability of success.
 - For Early Stage Investigators, describe **institutional investment** in the success of the investigator. See NIH's [Early Stage Investigator Policies](#).
- Bibliography/References Cited- this section does **not** count toward your page limit.
- Inclusion Enrollment Report
- Human Subjects Sections:
 - Protection of Human Subjects
 - Inclusion of Women and Minorities
 - Inclusion of Children
 - Targeted/Planned Enrollment Table
- Vertebrate Animals

- Select Agent Research. A full discussion on the use of Select Agents should appear in this section. PIs must describe the biocontainment resources available at all performance sites.
- Multiple PD/PI Leadership Plan (if applicable)
- Consortium/Contractual Arrangements (if applicable)
- Letters of Support
- Resource Sharing Plan(s).

Additional Resources

- [R-Series Grants Tip Sheet](#): includes information about formatting requirements, where to find detailed instructions, and tips for writing the Research Plan for R01, R15, and R21 grants. Prepared by the UToledo Proposal Development team in the Office of Research and Sponsored Programs (ORSP).
- The Proposal Development team provides grant writing and editing support, and can direct you to templates, sample proposals, and other resources. Contact Eva English, Director of Grants Development and Strategic Partnerships, at Eva.English@utoledo.edu to request assistance.