Chan Zuckerberg Initiative

# REQUEST FOR APPLICATIONS
# Patient-Partnered Collaborations (PPC) for Rare Neurodegenerative Disease

The Chan Zuckerberg Initiative invites applications from collaborative teams bringing together patient-led rare disease organizations and research teams for 4-year research projects aimed at advancing our understanding of the fundamental science of rare diseases. Applications are being accepted for two funding opportunities:

(1) **Patient-Partnered Collaborations for Rare Neurodegenerative Disease RFA:** to advance the understanding of the pathophysiology and mechanistic underpinnings of rare neurodegenerative and neurological disorders.

(2) **Patient-Partnered Collaborations for Single-Cell Analysis of Rare Inflammatory Pediatric Disease:** to support the application of single-cell biology methods to rare inflammatory pediatric diseases that will clarify cellular mechanisms of disease, understand disease heterogeneity, and improve biomarkers or diagnostics. Find out more about this RFA here.

Each of these RFAs recognizes patient-led organizations are central to defining research questions and priorities in their disease areas, connecting researchers to the patient community, contributing to study design, and engaging patients in research. Together, these RFAs aim to support patient-centered, foundational science-focused projects that seek to characterize the cellular mechanisms underlying rare diseases.

Awards are $2,000,000 USD total costs for four years for each project (distributed amongst research institutions and a patient organization). The award period for each RFA is an initial two years of funding, followed by an additional two years, pending evaluation. Applicants are welcome to apply to both of these opportunities; however, the application and scope of work must be distinct.

## OPPORTUNITY

### Overview

The CZI Neurodegeneration Challenge Network has three key goals:
(1) To make fundamental advances toward understanding neurodegeneration;
(2) To bring new ideas and talent to the field of neurodegeneration; and
(3) To encourage and experiment with a new interdisciplinary, collaborative, and open science research model involving scientists, clinicians, and engineers.

## CZI Neurodegeneration Challenge Network

The Neurodegeneration Challenge Network model is built on the vision that progress in solving neurodegenerative diseases will come from bringing new people into the neurodegeneration field from diverse disciplines and expertise; building interdisciplinary collaborations; empowering the broader scientific community with robust tools and platforms, and creating a culture of open science. Scientifically, we aspire to motivate the collective field to shift the approach to neurodegenerative diseases to a framework, where these diseases—currently addressed largely as distinct diseases and problems—are considered more holistically as a class of disorders with common features, mechanisms, and solutions. The Patient-Partnered Collaborations for Rare Neurodegenerative Disease RFA extends on this vision by expanding the scope of diseases and biological problems covered within NDCN, and widens the circle of experts and stakeholders to include patient organizations as collaborators, building on learnings from CZI's Rare as One Network and CZI's efforts in patient-directed research.

In the three years since launching the Neurodegeneration Challenge Network (NDCN) in 2018, the Network has grown to a thriving collaborative network that includes 56 teams, 108 labs and over 500 affiliated students, postdocs, and staff scientists. We are now pleased to invite applications to join the Neurodegeneration Challenge Network through a new Request for Applications (RFA) and grant program, the Patient-Partnered Collaborations for Rare Neurodegenerative Disease.

Building on the previous NDCN grant programs, including the NDCN Ben Barres Early Career Acceleration Award, the Collaborative Science Awards, and the Collaborative Pairs Pilot Projects, this RFA will also prioritize bringing new investigators and early-career scientists into the field. There will be an additional emphasis on recruiting scientists from fields outside the core of neurodegeneration and rare disease, and will target work that addresses the biology of rare neurodegenerative diseases in a novel, innovative, interdisciplinary, and disease cross-cutting way. To learn more, read about the Neurodegeneration Challenge Network, Rare As One Cycle One grantee announcement and Cycle Two announcement, and watch the NDCN video.

Patient-centered and foundational science-focused, this RFA aims to expand the understanding of the pathophysiology and mechanistic underpinnings of rare neurodegenerative disease and to channel the focus of research efforts towards issues and questions that are critically relevant to the patient experience. This RFA will not focus on therapeutic or clinical development. However, in centering the work on foundational science and closing critical knowledge gaps, these projects will build a strong foundation for translational efforts. We also see tremendous opportunity for the study of these rare neurodegenerative conditions to inform our understanding of neurodegenerative diseases more broadly, including common diseases.

## Project Specifications

### Disease Scope:

The focus of the RFA is on rare neurodegenerative diseases and neurological diseases with neurodegenerative features. Examples of diseases that would fall within scope include, but are not limited to, lysosomal storage disorders, neuropathies, spastic paraplegias, ataxias, leukodystrophies,

rare metabolic and autoimmune disorders leading to neurodegenerative disease, myopathies and muscular dystrophies, encephalophathies, and rare epilepsies in cases where there are degenerative features. Neurodevelopmental and neuropsychiatric disorders that are not considered neurodegenerative by consensus clinical criteria (autism, for instance) are not within scope for this RFA.

A key aim of this RFA is to encourage research in rare neurodegenerative diseases where research has been limited; rare disease areas where there are currently robust, mature research efforts and active research communities and/or significant funding by federal and philanthropic initiatives will be of lower priority. Examples of rare neurodegenerative disease areas which we consider to be mature fields of research include, but are not limited to, ALS, Huntington's Disease, Frontotemporal Dementia, Spinal Muscular Atrophy. We are open to consideration of proposals that address rare sub-populations of patients that are understudied and of unique scientific value. Applicants will be required to provide an overview of the clinical and biological features of the disease that is the subject of the application and a statement of the evidence in support of the disease being neurodegenerative and a case for why the disease area is understudied.

We particularly encourage project proposals that address health disparities or focus on rare diseases that predominantly affect underrepresented populations, particularly ancestries that are underrepresented in biomedical research.

**Scientific Scope**

Consistent with NDCN's focus on discovery science, this RFA is open to proposals for discovery science projects that are exploring foundational understanding of causes, progression, or mechanisms of rare neurodegenerative and neurological disorders. Proposals should center on a research question and clear research strategy.

Examples of the types of projects that would meet these criteria could include, but are not limited to:

- Projects that aim to address critical knowledge gaps about disease causes, clinical progression or mechanisms of action
- Projects that bridge natural history studies and mechanistic investigations
- Development of new models to support better understanding of disease mechanism
- Preclinical mechanistic work in support of therapeutic development; for instance, perturbation studies on a candidate mechanism in a disease model, proof of concept for reversal, disease mitigation in a disease model. The emphasis of this RFA will be on mechanistic work that provides insight into disease biology rather than therapeutic drug screens.
- Collaborative cross-disease research (for instance, exploring common mechanisms that affect more than one disease)
- Data-centered approaches that generate and/or analyze biological and clinical data sets, for the purpose of developing biomarkers, insights into disease mechanisms
- Longitudinal history studies that track disease development and provide insight into critical periods of disease progression and potential critical therapeutic windows
- Projects that provide critical insights into comorbidities, for instance, neuroimmune or metabolic influences on neurodegeneration.

Areas that are out of scope of this RFA:

- Clinical trials or pre-clinical research aimed primarily at clinical trial readiness (e.g., toxicology studies)
- Tool or resource development that is not tied to a specific research plan or agenda. This could include the development of research technologies, models (cell lines, animal models) or other types of infrastructure development (e.g., registries). We view the development of hiqh-quality, robust research tools as critical for accelerating science; however, for this RFA, such tool and resource development efforts should be clearly connected to specific research questions.

**Team Composition**

Collaboration is a central feature of this RFA and grant program. Applications will each have two lead Principal Investigators (PIs): one representing the research team and the other representing the patient organization. Teams should be made up of a minimum of two investigators with a maximum of five investigators, including the patient organization leader. Applications should be co-written by the researchers and the patient-organization representative. Applications will be accepted from newly formed collaborative teams who have not worked together previously or established researcher-patient organization collaborative teams who are proposing new research directions. We will prioritize teams that are taking a fresh, innovative approach to tackling these challenging diseases.

The criteria below for team composition are intended to allow for flexibility in team composition, while ensuring that there is strong co-ownership of the collaboration between the research and patient-advocate partners. If applicants have a question about their team's composition and eligibility, please contact sciencegrants@chanzuckerberg.com.

To allow tight collaboration and coordination of research efforts, this RFA is focused on small group collaborations. Teams should be made up of a minimum of two Principal Investigators (PIs) to a maximum of five PIs. All PIs are expected to actively contribute to the project and engage in program and network level activities, such as investigator meetings and workshops where relevant. Below we describe the roles of the PIs.

- **Coordinating research PI / lead-research PI:** Teams should designate a coordinating PI, the scientific lead of the research project, who coordinates the research team. The lead-research PI will also be the **Coordinating PI** of the grant to submit the application on behalf of the collaborating team. The Coordinating PI will act as the administrative contact between CZI and all other co-PIs on the grant. The Coordinating PI must submit the application on behalf of all PIs (including the Lead Patient Organization PI, see below) and ensure that the collaborative team has the necessary skills to deliver on the aims of the project. **The Coordinating PI must be affiliated with the academic/research institution submitting the application, and grant funds will be awarded to that institution, which will take responsibility for distributing funds to all other research institutions (patient funds will be awarded directly to the patient organization).** Note that institutions outside the U.S. may not subcontract to U.S. institutions, so please be mindful when selecting the Coordinating PI/institution.
- **Lead Patient Organization PI:** Will represent the patient organization. The research team should coordinate with one patient-led rare disease organization. If the project requires

collaboration with more than one patient-led rare disease organization, please reach out to sciencegrants@chanzuckerberg.com to discuss.

- **Up to three additional co-PIs:**
    - Teams may designate up to **three additional research co-PIs** from one or more research institutions. Co-PIs may be from the same or different research institutions as the Coordinating PI. The strongest applications will incorporate interdisciplinary expertise and perspectives. Teams may also include additional collaborators and contractors but only 3 individuals can be listed as research co-PIs.
- Each team must include at least **one clinician** with expertise relevant to the application and experience working with patients in this disease area. It is allowable for the clinician to either be located at a research institution or be designated as the Lead Patient Organization PI.

**Diversity, Equity, & Inclusion**

- We believe that the strongest teams incorporate a wide range of voices. Those underrepresented in science and technology are strongly encouraged to apply. This includes but is not limited to women, those with disabilities, underrepresented racial and ethnic groups, LGBTQ individuals, and organizations representing disease areas that disproportionately impact underrepresented or underserved communities.
- Researchers and patient organizations from the Global South and low-to-middle income countries, in particular those with populations that have historically been underrepresented in biomedical research, are strongly encouraged to apply and to be included as members of international collaborative networks. International collaborations between investigators and rare disease organizations in the Global North and South that leverage regional and technological expertise and strengths are encouraged. It is the expectation that international collaborations will follow guidelines for conducting research in an equitable and mutually beneficial manner.

**Collaboration and Open Science**

All projects will be evaluated based on their potential for scientific output (productivity), tool and resource dissemination (reach), inclusion of representative donors and communities, and collaboration among the team. We are looking for investigators and groups who will enthusiastically contribute to and benefit from a collaborative, dynamic, and interdisciplinary approach. For examples of evidence of productivity, reach, and collaboration, please see the CZI statement of values.

- In addition to providing funding, CZI functions as a scientific partner to grantees to help build open and accessible tools and datasets that serve as references for healthy and disease states. Investigators will have the opportunity to learn from, collaborate with, and interact with the community of investigators and groups across all Networks, as well as with CZI computational biologists and software engineers.
- CZI supports collaboration. All PIs listed on the application are expected to participate in project meetings, reports, and other events. Networks should be genuine collaborative projects with responsibility and participation distributed across participating research groups and organizations. Members of funded labs with key roles in the project—such as students, postdocs, and staff—will also participate in scientific meetings, hackathons, and other activities, and relevant members of patient organizations will also be included in such events. The Rare As One team will also expand access to some of its relevant training and support

program offerings to both the researchers and organizations that are listed as co-PIs on this grant, and will develop targeted trainings to support this specific collaborative opportunity.
- CZI's mission is at the interface of technology and science. Working in collaboration with, and guided by, other grantees in the Network and the wider Human Cell Atlas (HCA) community, we aim to develop technology-based tools and approaches to support and accelerate the scope and impact of tissue atlases and the HCA community.
- CZI supports open science values and principles. To accelerate scientific discovery and collaboration, CZI supports a consent, sharing, and publication policy for open and rapid dissemination of research results and a policy for software development that maximizes accessibility, reuse, and shared development.
- CZI believes that the people most affected by problems should be centered in developing solutions to those problems. We work with patient communities to ensure they are heard, and recognize patients and patient communities and organizations as key partners in research.

## ELIGIBILITY

Applications should be submitted by the Coordinating PI at a research institution as described below. Patient organizations and the Lead Patient Organization PI must be included in project conception, execution, and analysis as detailed by the application submitted by the Coordinating PI. If selected for funding, research funds will be disbursed separately to 1) the research institution of the Coordinating PI, who will be responsible for distributing funds as appropriate to support the work of co-PIs in the same or other research institutions, and 2) to the patient organization. Applicants may submit only ONE application to this RFA. Applicants are welcome to apply to both this opportunity and the opportunity titled "Patient-Partnered Collaborations for Single-Cell Analysis of Rare Inflammatory Pediatric Disease RFA"; however, the application and scope of work must be distinct.

### Researchers/Research Institutions

- Applications may be submitted by domestic and foreign nonprofit organizations, public and private institutions, such as colleges, universities, hospitals, laboratories, units of state and local government, and eligible agencies of the federal government. For-profit organizations are not eligible to receive funding but may be involved in projects as a collaborator. All grants will be awarded to institutions, not individuals.
- Research institutions may be based in any country.
- More than one application will be accepted from each research institution.
- Each Coordinating PI and patient organization may only submit one application to this RFA.
- Each application should designate one Principal Investigator (PI) as the Coordinating Principal Investigator (Coordinating PI). The Coordinating PI will act as the administrative contact between CZI and all other PIs on the grant (co-PIs). The Coordinating PI must submit the application on behalf of all PIs. The Coordinating PI must be affiliated with the institution submitting the application, and grant funds will be awarded to that institution, which will take responsibility for distributing funds to all other research institutions. Note that institutions outside the U.S. may not subcontract to U.S. institutions, so please be mindful when selecting the Coordinating PI/institution.
- Principal Investigators may only serve as funded Principal Investigators on one application. They can be involved in multiple applications as unfunded collaborators, but should not be named as Coordinating PIs or co-PIs on multiple applications.

- PIs/co-PIs on one application may be employed at the same or at different research institutions.
- PIs/co-PIs must have an academic appointment and be in an independent faculty position or equivalent at an accredited college, university, medical school, or other research facility at the time of grant start. Independence is demonstrated by institutional support for independent research activities.
- Collaborators from companies are permitted as long as no funds are requested to support them or their work and there is full compliance with CZI policies regarding open science.
- Early-career investigators are strongly encouraged to apply as Coordinating PIs as well as co-PIs.
- Meta employees, including employees of any subsidiary Meta entities, as well as employees of Chan Zuckerberg Initiative, LLC, are not permitted to apply.
- CZI reserves the sole right to decide if an applicant and applicant institution meet the eligibility requirements.
- CZI reserves the right to request budget changes prior to award.
- Prior to award, all grant applications will be reviewed for compliance with the United States Treasury Department's Office of Foreign Asset Control (OFAC) sanctions program, the United States Department of Commerce's export administration regulations, the Foreign Corrupt Practices Act (FCPA), any other applicable U.S. laws and regulations, and any corresponding laws and regulations in the country where the applicant is based. All grant agreements will also require the grantee to comply with these laws and regulations. For additional information please refer to: the U.S. Treasury Department's resources, the International Trade Administration's website on US Export Controls, and the Department of Justice's website on the FCPA.

**Patient Organizations**

- Patient organizations must be patient-led rare disease organizations (advocacy groups, disease foundations or organizations that represent patients, engage patients in key leadership roles—e.g., as founder, executive director, board member, key staff, etc.—and are patient-centered in their programming).
- Patient organizations must be organizations that are tax-exempt under section 501(c)(3) of the United States Internal Revenue Code, OR have a valid fiscal sponsor that is tax-exempt under section 501(c)(3) of the Internal Revenue Code, OR a 501(c)(3) charity/non-profit organization equivalent for non-US based organizations. Non-US based organizations will be subject to Equivalency Determination.
- Patient organizations must be focused on a rare disease, disorder, or syndrome, or group of closely related rare diseases, disorders, or syndromes (defined, for instance, as a condition that affects fewer than 200,000 people in the U.S., or no more than 1 in 2,000 people in the European Union).
- This RFA is intended to support early stage research on rare diseases with sparse scientific research to date. It is not intended to further already mature areas of research, such as those supported by large organizations with extensive research programs or areas funded by governmental funding (i.e., NIH or the equivalent). We will prioritize support for patient organizations with annual research budgets less than $5 million.
- Each patient organization may only be represented in one application to this RFA.
- Lead Patient Organization PIs may only be named on one application.

- Meta employees, including employees of any subsidiary Meta entities, as well as employees of Chan Zuckerberg Initiative, LLC, are not permitted to apply.
- CZI reserves the sole right to decide if an applicant and applicant organization meet the eligibility requirements.
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CZI suggests that you consult your home institution to determine eligibility to apply for this grant and your institutional policy on indirect costs. For questions about eligibility for this award or the application process, please contact us in advance of the proposal deadline at sciencegrants@chanzuckerberg.com. Deadline extensions will not be granted.

## APPLICATION REQUIREMENTS

All applications must be completed and submitted through CZI's online grants management portal at https://apply.chanzuckerberg.com. It is recommended that applicants familiarize themselves with this portal well in advance of the application deadline. Detailed application instructions are available on the Chan Zuckerberg Initiative website, as well as in the grants management portal.

**Key Dates:**

| | |
|---|---|
| February 1, 2022: | Application portal opens |
| May 24, 2022: | Applications due by 5 p.m. Pacific Time |
| Late October 2022: | Earliest notification of decisions (subject to change) |
| December 1, 2022: | Expected start date of award period |

**Award period and start date:** The award period for each RFA is for an initial two years of funding, followed by an additional two years, pending evaluation. The expected start date is December 1, 2022.

**Budget:**

- **Total project budgets** should be $500,000 USD total costs (inclusive of up to 15 percent indirect costs) per year for a total of $2,000,000 total costs for 48 months.
    - We anticipate funding research institutions for $400,000 USD total costs (inclusive of up to 15 percent indirect costs) per year for a total of $1,600,000 USD over a 48 month period. Indirect costs cannot exceed 15 percent of direct costs.
    - Budgets should include allocations for each patient organization for $100,000 USD total costs (inclusive of up to 15 percent indirect costs) per year for a total of $400,000 total costs over a 48 month period. This will be awarded separately and directly to the

patient organization and is in addition to the $400,000 to the research institution per year.

## SELECTION PROCESS

The Chan Zuckerberg Initiative's core values center around people, technology, collaboration, and open science. We adhere to those values in both proposal selection and evaluation of progress.

CZI will evaluate all applications for both scientific merit and the engagement with the patient perspective to inform the priorities of the proposed work. All projects will be externally reviewed by a panel of experts in relevant domains. Final decisions will be made by CZI staff in consultation with our scientific advisors. There is no expectation of any specific number of awards, and the Chan Zuckerberg Initiative reserves the sole right to not recommend the funding of any applications. CZI does not provide feedback on decisions for unfunded proposals.

**Reporting & Progress:** Annual reports will be required to ensure progress toward project deliverables. Measures of progress will include project deliverables and engagement with the community consistent with the selection criteria for proposals. These include:

- Depositing raw data to an appropriate data repository (e.g. GEO, dbGAP, EGA, RD-Connect, etc);
- Open sharing of processed data, such as count matrices, using tools such as cellxgene that make it possible for the scientific community to explore the data;
- Depositing software code to an open repository such as GitHub;
- Submitting or modifying protocols open protocol sharing platforms such as Protocols.io;
- Publishing results along with submission to open-access preprint servers (e.g. bioRxiv, medRxiv, arXiv, etc.);
- Participating in community activities as evidenced by engagement and potentially collaborating with other research teams supported by the Neurodegeneration Challenge Network and with other ongoing CZI-funded programs within the Rare as One Network. All investigators will meet at least annually, with opportunities for regular engagement through webinars, training workshops, working groups and other informal interactions;
- Participating in training and other resources designed by the Rare As One team to support effective and impactful patient-researcher collaborative partnerships;
- Annual reporting that includes a brief description of the research collaboration, how the team engages with one another, how the patient voice is incorporated in the work, and feedback on how the collaboration impacted project progress.

## POLICIES

- Funds from this award are intended to support research activities. Grants are not issued to individuals, but rather to organizations to support the work of the named Principal Investigators, and reasonable flexibility on how these funds are utilized is allowed, provided that funds are used to support research activities related to the project. A detailed budget is required at the time of application. For awarded projects, financial statements and progress reports will be due at the conclusion of each grant year, and occasionally more frequently. Specific deliverable requirements will be outlined in the award notification. Grantees of funded projects will be required to participate in regular meetings, including annual network meetings

(which may be in person or virtual). Travel support for these meetings will be provided by CZI separately from the requested grant funds.

- Grantees may obtain funds for their research from other funding sources, provided that there is no conflict with meeting the terms of the CZI award.
- Unused research funds may be carried over to the following year, and requests for no-cost extensions will be considered at the end of the overall project period and upon receipt of an annual report.
- Indirect costs cannot exceed 15 percent of direct costs. Indirect costs may not be assessed on capital equipment or subcontracts, but subcontractors may include up to 15 percent indirect costs of their direct costs.
- International grantees must use all grant funds exclusively for activities conducted outside the United States of America. Travel expenses to the United States must not be covered from the requested grant funds.
- **Ethical conduct:** CZI advocates the highest standards for the ethical conduct of research. In addition to requirements of their own countries, grantees must adopt procedures for the use of animals in research and for the ethical treatment of human subjects and tissue donors, including obtaining their or their appropriate proxy's written informed consent. CZI regards the policies of the National Institutes of Health as a strong model for such procedures.
- **Data, publication, and dissemination policies:** To accelerate scientific discovery and collaboration, CZI supports a consent, sharing, and publication policy for open and rapid dissemination of proposal results, including methods, data, and reagents, and a policy for software development that maximizes accessibility, reuse, and shared development. Under rare circumstances, exceptions to the above may be considered where there are specific situations that make meeting these goals impossible or counterproductive to the project.
    - **Software code:** CZI requires sharing of software code developed by its grantees generally to be made publicly available on GitHub (or a similar public service). All new code must be released under a permissive open source license (MIT, BSD 2-Clause, BSD 3-Clause, or Apache v2.0). All pre-existing and derivative code must be licensed under the most permissive license possible, given the licensing terms of the pre-existing code. All analysis packages must be released through the appropriate language-specific package manager (e.g., PyPi for Python, Bioconductor and CRAN for R) with documentation, example data, and interactive demos (e.g., Jupyter notebooks), and the use of Docker or similar container technologies to ensure portability and reproducibility. Software code supported by CZI should be archived for long-term digital preservation and citability, when applicable.
    - **Content and data sharing:** CZI is committed to developing and using platforms that disseminate data openly and freely. Any dataset utilized in this proposal must be publicly available and easily accessible. For data not already available through an appropriate data repository, we strongly encourage uploading it for greater accessibility and reuse by the community. Patient/human data should be de-identified; applicants may contact CZI to discuss best practices for sharing the results of research without violating privacy concerns.
    - **Publications:** To encourage rapid dissemination of results, any publications related to this funded work must be submitted to a preprint server (such as bioRxiv, medRxiv, arXiv, or any appropriate preprint repository), at or before the first submission to a journal. Experimental protocols must be made publicly available through a protocol

sharing service, such as protocols.io. Scientific publications, preprints, and presentations that result from this award should acknowledge support from this funding.

- **Reagent sharing:** Resources and reagents developed with this funding support must be available for rapid dissemination to the community, where possible in an accessible community repository, such as Addgene (for plasmids/DNA reagents/viruses) and Jackson Labs (for model systems lines), etc. This requirement applies to cell lines, transgenic organisms, plasmids/clones, antibodies, and other reagents.
- **Consent:** All human tissues must be adequately and fully consented to permit full sharing of the resulting data and any resulting tools, in accordance with laws and regulatory requirements, or other requirements. Any desired exceptions to this policy must be identified at the time of application, and such requests may affect the application's chance of success. We are aware that there may be circumstances where broad consent may be challenging, and in some cases consent may be subject to revocation; we encourage investigators to discuss these cases with CZI scientific staff. As a resource for researchers in the HCA community, the HCA has provided ethics guidelines and developed an ethics toolkit with template consent forms.
- **Intellectual property rights:** CZI does not require assignment of ownership to any data, published results, or any other intellectual property that results from the work funded by these grants but will have the same rights generally granted to others. CZI supports and promotes policies that enable results and technologies to have the broadest reach and impact. To this end, all newly developed software must be made available through permissive open source licenses as described more fully above. Other technology and intellectual property rights (such as patents) must be made freely available for all academic and non-commercial use, and where intellectual property rights are commercialized, they must generally be subject to non-exclusive commercial licenses that enable broad availability and dissemination.

- Applications selected through this process will either be funded by the Chan Zuckerberg Initiative Foundation (CZIF) or recommended for funding through the Chan Zuckerberg Initiative Donor-Advised Fund (CZI DAF) at the Silicon Valley Community Foundation (SVCF).

## CONFIDENTIALITY

All submitted applications will be kept confidential, except (1) as necessary for our evaluation or to comply with any applicable laws; and (2) to the extent that the application is made public or available to others without a duty of confidentiality through no fault of CZI. Notwithstanding, successfully funded proposals may be made publicly available and/or shared with other grantees or collaborators. Unfunded proposals will remain confidential as provided herein; however, information, including brief summaries of the proposed projects, project metrics, and the types of organizations that have applied for funding, may be made publicly available in aggregate form.

## RFA CONTACT

For administrative and programmatic inquiries, or other questions pertaining to this RFA, please contact sciencegrants@chanzuckerberg.com.

### IMPORTANT DOCUMENTS

Application Instructions
Institutional Approval Form

Chan Zuckerberg Initiative

## APPLICATION INSTRUCTIONS
## Patient-Partnered Collaborations (PPC) for Rare Neurodegenerative Disease

**Some helpful information as you get started:**

- This document contains:
  - General guidance on using the portal
  - How to submit an application
  - Application details specific to this Rare Neurodegenerative Disease RFA

- Please review the Request for Applications.

- The Chan Zuckerberg Initiative uses SurveyMonkey Apply (SMApply) as its grants management portal. All applications must be submitted through this portal (https://apply.chanzuckerberg.com). SMApply is configured to work best using the Google Chrome browser. It is recommended that you familiarize yourself with this portal well in advance of any deadlines. Deadline extensions will not be granted.

- **Key dates:**

| | |
|---|---|
| February 1, 2022: | Application portal opens |
| May 24, 2022: | Applications due by 5 p.m. Pacific Time |
| Late October 2022: | Earliest notification of decisions (subject to change) |
| December 1, 2022: | Expected start date of award period |

- **Application specifics:**
  - **Eligibility:** Please refer to the RFA announcement.
  - **Award Period:** The award period for each RFA is for an initial two years of funding, followed by an additional two years, pending evaluation. The expected start date is December 1, 2022.
  - **Number of Principal Investigators (PIs):** Multi-disciplinary project teams composed of members with the necessary skill sets and engagement with patient communities are required to maximize the success of these projects. Each project must have a designated Coordinating Principal Investigator that will serve as an administrative point of contact for all research activities and help coordinate progress within the group as

well as a Lead Patient Organization PI. All other participants will be co-PIs and are expected to contribute to the project. A clinician must be included in each collaborative project. It is allowable for the clinician to either be located at a research institution or be designated as the Lead Patient Organization PI. Teams should have a minimum of two PIs and a maximum of five PIs to fulfill the eligibility criteria.

- **Budget:**
  - **Total project budgets** should be $500,000 USD total costs (inclusive of up to 15 percent indirect costs) per year for a total of $2,000,000 USD total costs for 48 months.
    - We anticipate funding research teams for $400,000 USD total costs (inclusive of up to 15 percent indirect costs) per year for a total of $1,600,000 USD over a 48 month period. Indirect costs cannot exceed 15 percent of direct costs.
    - Budgets should include allocations for the patient organization for $100,000 USD total costs (inclusive of up to 15 percent indirect costs) per year for a total of $400,000 USD total costs per institution over a 48 month period. This will be awarded separately and directly to the patient organization and is in addition to the $400,000 USD to the research institution per year.
- Institutional sign-off by the research institution is required at the time of submission.

# GETTING STARTED

**Account setup:** The applicant (Coordinating PI) must first set up an account in the CZI online grants portal at https://apply.chanzuckerberg.com/. Only the Coordinating PI needs to set up an account.

To set up an account:

1. Go to https://apply.chanzuckerberg.com/.
2. Click the green Register button in the upper right corner.
3. Complete the requested fields and then click the green Create Account button.
4. Click the green Continue button to proceed to the site.

Please note you will need to verify your account through the auto-email that you receive after registering. You will not be able to submit an application until your account is verified.

**Personal data:** Where we ask for personal data of individuals in grant applications, please only submit personal data that you have a right to provide. We will use and store any personal data collected through the application process for grant-related purposes (e.g., administering the grant, decision-making related to grants, and analysis of our grant practices), subject to the limitation in the Equal Opportunity & Diversity section. The Chan Zuckerberg Initiative will be the “data controller” for any such personal information, and the data may be stored on servers outside of your home country, including within the United States. If you have any questions or concerns regarding our privacy practices or collection or use of personal data, you can contact us at privacy@chanzuckerberg.com.

**Navigating the portal**: Once you have set up an account, you can log in to the grants portal at https://apply.chanzuckerberg.com/. Using the links in the upper right corner, you can access available programs (which includes RFAs for all CZI areas, not just science) and any applications you have in preparation or previously submitted. Use the information ("i") link to get help with the portal. To access your account information, click on your name in the upper right. Your application will pre-populate with the name and email listed in your account information so if you need to edit it, click on your name in the upper right corner to make any necessary changes.

**Forgotten username or password:** If you have forgotten your username or password, please navigate to the grants portal at https://apply.chanzuckerberg.com/ and click on the Log In link located in the upper right corner. Click the Forgot your password link and then enter the email address associated with your SMApply account. You will then receive an email with information to reset your password. Please note that your username is your email address.

**Other questions:** If you have other questions about using the portal, please use the information ("i") link in the upper right corner of the window. Here you will find a link to FAQs about using the portal, as well as links to submit specific help requests. If you have specific questions about the RFA, please contact us at sciencegrants@chanzuckerberg.com.

# SUBMITTING AN APPLICATION

**To submit an application:**

1. Go to https://apply.chanzuckerberg.com.
2. Log in.
3. Click the green View Programs button that is displayed or click on the Programs link in the upper right corner. This will bring you to a listing of all programs/RFAs that CZI is hosting in SMApply. To **find the program/RFA** you are looking for, you may need to scroll down.
4. Find the program/RFA you are interested in and click the green More button.
5. Click the green Apply button in the upper right and complete all sections (details below).
    a. You will first be prompted to **enter the title** of your application, after which you will have access to the application tasks to complete. Project title is limited to 60 characters, including spaces. If you need to **edit your project title**, click on the My Applications link in upper right and click the green Continue button on the application you wish to edit. Once the application page opens, click on the three dots to the right of the application title (next to the Preview link) and select Rename from the dropdown menu.
    b. The application is made up of several sections called tasks that are listed in a menu on the left side of the page. To **open a task**, click on the one you would like to work on. You can edit and complete tasks in any order. You may need to scroll down to see the remaining tasks.
    c. Once you **complete a task**, click the green Mark as Complete button within the task. All tasks must be marked as complete before submitting. To **edit a task** after

marking it as complete, click the three dots in the upper right of the task and select edit, which will re-open the task.

d. Your application will autosave every few seconds, but you can also click the Save & Continue Editing on each task as you go along to **save your application**.
e. In the tasks that require a PDF upload: If you need to **delete and replace a PDF** after you have uploaded it, click on the three dots to the right of the file under the Attach File section within the task and select Remove from the dropdown menu.
f. To **download your application**, click on the three dots in the upper right corner of the application page and select download. If you are within a task, first click on the Back to application link in the upper left. Please **be aware of any pop-up blockers** in your browser that may prevent downloading your application.
g. To **access an application that you have previously saved**, click on the My Applications link in upper right and click the green Continue button on the application you wish to edit.

6. Once all tasks are completed, click the green Submit button **to submit your application**.
    a. If the button is grayed out, it means your application is not yet complete; please be sure all required fields and uploads are complete within each task and that you have clicked the Mark as Complete button within each task.
    b. To **download your application**, click on the download link in the upper right corner. Please be mindful of **any pop-up blockers** that may be active in your browser that prevent/hide downloads.
    c. Review your application in the window (or in the PDF that you have downloaded). If you want to make changes, navigate back to your application and reopen/edit any tasks that need editing. **It is strongly recommended that you download your application as a PDF (instructions above in b.) to review your application before clicking submit.**
    d. Once you are **ready to submit**, click the green Submit Your Application button on the left side of the window. You will need to confirm your submission by clicking the green Submit button in the pop up window. **Once your application has been submitted, it cannot be edited. Please be sure that your application is complete BEFORE submitting**. If you inadvertently submit your application and it is before the deadline, please contact sciencegrants@chanzuckerberg.com.
7. Once your application is submitted, you will **receive an auto-email** confirming submission within a few minutes. If you do not receive a confirmation email within a few minutes, please check your spam folder. If you still did not receive your confirmation email, please email sciencegrants@chanzuckerberg.com.
8. If you would like to view your application after you have submitted it, it can be accessed through the My Applications link in the upper right corner.

**The application consists of the following sections (called tasks in the grants portal):**
Coordinating PI Details, Research Institution Details for Coordinating PI, Lead Patient Organization PI Details, Patient Organization Details, Equal Opportunity & Diversity, Project Details, Project Proposal, Budget Description, and Biosketches for Coordinating PI/Lead Patient Organization PI/Co-PIs.

- **Coordinating PI Details:** Complete all fields in this task; **all fields are required.** The information entered should be for the Coordinating Principal Investigator (Coordinating PI), who will be the person submitting the application on behalf of the team. The Coordinating PI will take responsibility for managing the group collaboration and be the administrative point of contact for CZI and any partners. **The Coordinating PI must be affiliated with the academic/research institution submitting the application.** Note that institutions outside the U.S. may not subcontract to U.S. institutions, so please be mindful when selecting the Coordinating PI/institution. Information about the Co-Principal Investigator(s) on the proposal should be entered where requested in the Project Details part of the application.
    - Name and email (auto-filled): To edit your name or email, please do so in your account information by clicking your name in the upper right corner and clicking My Account in the dropdown menu.
    - Degree(s).
    - Institution, Title/Position, Department or equivalent.
    - Career status: Select early-career (0 to 6 years), mid-career (6+ to 10 years), or neither. **Note: Early- or mid- career status is not required to be eligible for this RFA, although we encourage participation and leadership from early-career researchers.**
        - Early-Career Definition: In the context of this RFA, an early-career investigator is someone who has been in an independent position for zero to six years at the time of application, i.e. have started their first independent position between May 24, 2016 and May 24, 2022.
        - Mid-Career Definition: In the context of this RFA, a mid-career investigator is someone who has been in an independent position for more than six to 10 years at the time of application, i.e. have started their first independent position between May 24, 2012 and May 23, 2016.
    - Short narrative biography of the Coordinating PI (maximum of 100 words).
    - ORCID iD: Enter in format XXXX-XXXX-XXXX-XXXX. ORCID iDs are unique, digital identifiers that distinguish individual scientists and unambiguously connect their contributions to science over time and across changes of name, location, and institutional affiliation. ORCID iDs will be used to streamline reporting in our applications and grant reports to reduce the burden on grantees. For more information, please visit https://orcid.org/register (please contact us at sciencegrants@chanzuckerberg.com if you wish to opt out).

- **Research Institution Details for Coordinating PI:** Complete all fields in this task; **all fields are required.** The information entered should be for the research institution of the Coordinating Principal Investigator (Coordinating PI), who will be the person submitting the application on behalf of the team. The Coordinating PI must be affiliated with the institution listed, and **research grant funds will be awarded to this institution,** which will take responsibility for distributing funds to the institutions of the other research team members. **Patient organization funds will be awarded separately.**
    - Institution name/Street address/City/State or Province/Country/Website.
    - Type of Institution (Academic, Other Non-profit, Government, Other).

- Tax ID: Enter your institution's Employer Identification Number (EIN), as assigned by the Internal Revenue Service in the 9-digit format (XX-XXXXXXX; 10 characters total). Foreign institutions or others who do not have an EIN should enter 44-4444444.
- Institutional / Administrative Contact: List the name and contact information for the administrative contact to discuss additional information needed, if selected for award.
  - First name, Last name, Title/Position, Email.
- Signing Official: List the name and contact information for the person authorized to sign on behalf of your institution.
  - First name, Last name, Title/Position, Email.
- Press Contact / Public Relations Official: List the name and contact information for the person to discuss press releases and media.
  - First name, Last name, Title/Position, Email.
- Institutional Approval Form: Upload as a single PDF. This form should be reviewed and signed by a person authorized to sign on behalf of your institution agreeing to the stated institutional and investigator requirements and commitments on data, resource sharing, and publication policies, as well as endorsing/verifying your application materials and confirming their ability to receive funding for the proposal. In the event of an award, all funds will be awarded to the Coordinating PI institution as the prime institution, and the Coordinating PI institution will be responsible for ensuring compliance of all of the terms, including compliance of all partners/subcontract institutions. **These policies are non-negotiable so this form should only be signed if the organization is able to comply with the terms as stated.** While CZI does not require sign-off by all of your partner institutions, please refer to what your institution requires. **Note: digital signatures are permitted as long as the document is not encrypted or password-protected.**

- **Lead Patient Organization PI Details:** The information entered should be for the Lead Patient Organization PI (Executive Director, Chief Scientific Officer, Research Coordinator, etc) who will be taking responsibility for the grant from the patient organization (as the Lead Patient Organization PI) and will be the administrative point of contact for the patient organization for CZI.
  - Name and email.
  - Organization.
  - Degrees(s).
  - Title/Position at organization.
  - Short narrative biography of the Lead Patient Organization PI (maximum of 100 words).

- **Patient Organization Details**:
  - Eligibility requirements: In an effort to ensure your patient organization meets the eligibility requirements to apply, this eligibility questionnaire must be completed.
    - Is the organization a patient-led organization? This is defined as an advocacy group/disease foundation or organization that represents patients, employs patients in key leadership roles (e.g., Founder, Executive Director, Board of Directors) and is patient-centered in its programming.

        - Is the organization focused on a rare disease, disorder, or syndrome, or group of closely related rare diseases, disorders, or syndromes? For the purposes of this application: as defined in the U.S. as a condition that affects fewer than 200,000 people in the U.S., or as defined in the European Union as a condition that affects no more than 1 in 2,000.
        - Is the organization tax-exempt under section 501(c)(3) of the Internal Revenue Code? Or does the organization have a valid fiscal sponsor that is tax-exempt under section 501(c)(3) of the Internal Revenue Code? Or, if international, is the organization a registered non-profit that is equivalent to 501(c)(3) organizations in the United States?
        - Does the organization have an annual budget of less than $10 million USD averaged over a two-year period?
    - Enter the Patient Organization's Name/Street address/City/State or Province/Country/Website/Year established.
    - Will your organization be applying with a fiscal sponsor? (Yes/no) If yes:
        - Fiscal Sponsor Organization Name
        - Fiscal Sponsor street address/City/State/Website
        - Fiscal Sponsor Contact Information
            - First name, Last name, Title/Position, Email.
    - Enter the Patient Organizations Employer Identification Number (EIN), as assigned by the Internal Revenue Service in the 9-digit format (XX-XXXXXXX; 10 characters total). If you are a fiscally sponsored organization, please enter the Tax ID of your fiscal sponsor. Foreign organizations that do not have an EIN should enter 44-4444444.
    - Other Organization Details:
        - Indicate the number of paid employees at the Patient Organization, including the Lead Patient Organization PI.
        - Share the Patient Organization's mission/mission statement (maximum of 75 words).
        - Mark all regions in which the Patient Organization is active. Check all that apply.
            - State/regional, U.S., North America, Central/South America, Africa, Asia, Europe, Australia
        - Are there other advocacy organizations working directly in the disease area the organization represents? (Yes/No)
            - If Yes: For each advocacy organization (maximum of 10):
                - Name of advocacy organization.
                - Description of if and how you work with those groups (maximum of 30 words).
                - **To add another row in a table**, click the box at the end of the row.
    - Budget:
        - Provide the Patient Organization's total operating budget for the current fiscal year in U.S. dollars.

        - Indicate what percentage of the Patient Organization budget is currently allocated to research (including funding research directly, the development of research-enabling infrastructure, etc.).

- **Equal Opportunity & Diversity:** CZI Science supports the science and technology that will make it possible to cure, prevent, or manage all diseases by the end of this century. Everyone is affected by disease, yet different communities are affected by or experience disease in different ways. Moreover, due to systemic barriers, the scientific enterprise itself is not a place where all voices and talents thrive. We believe the strongest scientific teams—encompassing ourselves, our grantees, and our partners—incorporate a wide range of backgrounds, lived experiences, and perspectives that guide them to the most important unsolved problems. To enable our work, we incorporate diverse perspectives into our strategy and processes, and we also seek to empower community partners to engage in science.

  We request demographic information associated with applications submitted to CZI in response to our open calls. This information helps us learn from the RFA process, as well as improve our strategies to help ensure members of underrepresented or marginalized groups in science are aware of and able to apply to CZI opportunities. **Please note that answering all questions below is voluntary, and demographic information will not be used to make final grant funding decisions.** All responses will be shared only with limited personnel, who will use that information only for the purposes described in this paragraph.

  If you have any additional questions about why we ask this, what we do with the data, or to share suggestions for improvement, please reach out to sciencegrants@chanzuckerberg.com.

  The information below may be entered for the Coordinating PI. **Please note that completing the below is voluntary, and demographic information will not be used to make final grant funding decisions.**
    - What is your race/ethnicity? (optional)
    - What is the year of your last academic degree? (optional)
    - What is your gender? (optional)
    - Are you transgender? (optional)
    - Are you a member of the LGBTQ community? (optional)
    - Do you have one or more disabilities? Please specify (optional)

  The information below may be entered (up to four total) for the Lead Patient Organization PI and co-Principal Investigators listed in the Project Details section. **Please note that completing the below is voluntary, and demographic information will not be used to make final grant funding decisions.** Please also let your co-Principal Investigators and Lead Patient Organization PI know if you choose to enter the below in case they object to your providing that information to CZI.
    - Do any of the co-Principal Investigators and/or Lead Patient Organization PI self-identify as one of the following? Woman, Man, Non-binary/Third gender, Prefer not to state, Prefer to describe (optional)

        - If yes, how many of the listed co-Principal Investigators and/or Lead Patient Organization PI self-identify as one of the above gender identities? **Please do not include requested information on a per person basis; we are looking for aggregated information (optional)**
    - Do any of the co-Principal Investigators and/or Lead Patient Organization PI self-identify as one of the following? Two or More Races, Black and/or African American, Asian, White, Hispanic or Latinx, Middle Eastern or North African, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, Prefer not to state, Prefer to describe (optional)
        - If yes, how many of the listed co-Principal Investigators and/or Lead Patient Organization PI self-identify as one of the above race/ethnicities? **Please do not include requested information on a per person basis; we are looking for aggregated information (optional)**

- **Project Details:** Complete all fields in this task; all fields are required.
    - Project Title: Auto filled; limited to 60 characters, including spaces. If you need to edit your project title, navigate to your application summary page, click on the three dots to the right of the application title (next to the Preview link) and select Rename from the dropdown menu.
    - Project Purpose: Summarize your research project; limited to one sentence. Please use a third-person voice. (maximum of 200 characters including spaces)
        - Example: *To develop a comprehensive, validated atlas of the human kidney at single-cell resolution open to the entire scientific and clinical community.*
    - Abstract/Project Summary: Describe your project. Please use a third-person voice (example). (maximum of 250 words)
    - Milestones: Summarize the annual milestones for the project, including yearly deliverables that demonstrate progress and iteratively contribute to resources available to the community as well as the expected activities and processes for researcher-patient collaboration throughout the duration of the project; and patient engagement activities. Please use a third-person voice (list format, maximum of 250 words)
    - Rare Disease Name*:* Provide the name of the proposal's primary rare disease, disorder, or syndrome, or group of closely related rare diseases, disorders, or syndromes of focus. Write out any acronyms. If the disease exists in a rare disease database such as Gard, Orphanet, or Mondo, please provide the link to it. (maximum of 10)
      For example,

| Name | Link | Add another row ? |
|---|---|---|
| Charcot-Marie-Tooth disease type 2B | https://rarediseases.info.nih.gov/diseases/9192/charcot-marie-tooth-disease-type-2b | X |
| Autosomal dominant Charcot-Marie-Tooth | https://bit.ly/2Yxqxgm | X |

| | | |
|---|---|---|
| disease type 2B | | |
| Charcot-Marie-Tooth disease type 2 | https://monarchinitiative.org/disease/MONDO:0018993 | |

- Disease Description: Include basic information related to incidences, prevalence, life expectancy, affected population demographics, age of diagnosis, known cases, etc (maximum of 200 words).
- Patient Experience: Describe the typical experience of patients with the disease including but not limited to common symptoms, treatment options, disease progression, quality of life. Please also describe any diagnostic challenges, including but not limited to typical method(s) of diagnosis (genetic testing, clinical, imaging, etc.), percent of undiagnosed in the affected population, subpopulations, global regions, ethnic, or racial groups that are undiagnosed (maximum of 200 words).
- Focus Area: Explain why the focus area described above is a current priority in the disease area. Specifically, explain how patients' needs and priorities have been identified and how this research focus area reflects and advances those priorities (maximum of 400 words).
- Diversity, Equity, and Inclusion (DEI) Statement: Advancing DEI is a core value for CZI. Describe how your project and/or team will incorporate the values of equity, diversity, and inclusion into the proposed project in the following areas (maximum of 250 words):
  - Describe goals for the inclusion and representation of participants who come from a diversity of racial, ethnic, and ancestral backgrounds, and if your project addresses a racial health disparity in rare disease. This could include projects that are focused on a rare disease with high prevalence in, and/or disproportionately impacts communities of color; and/or studies that propose a plan to recruit tissue donors from communities of color and other ancestries underrepresented in biomedical research and data. We strongly encourage the inclusion of patients who are members of communities that are underrepresented in biomedical research, with particular emphasis on underrepresented/understudied ancestries.
  - Sex parity is expected where appropriate. If there is an opportunity to analyze significant numbers of samples from intersex individuals, such work is highly encouraged.
  - Teams proposing to work with communities that have been historically marginalized or exploited are encouraged to incorporate ethics guidelines into their research plans. In particular, for work with Indigenous communities in the United States, it is encouraged that NIH guidelines for working with Native American communities be incorporated into the research plan, where applicable. Groups outside of the United States are encouraged to adopt regional guidelines for working with Indigenous or historically marginalized communities.

- Number of Research Institution Co-Principal Investigators: Indicate the number of Co-Principal Investigators. **Do not include the Coordinating PI or the Lead Patient Organization PI in this section**. Complete the table with the following information for each co-PI (maximum of three). You may need to use the scroll bar at the bottom of the table to scroll right to view and to complete all fields. Alternatively, you can tab to move through and complete the fields. For each co-PI, please provide:
    - Co-PI name, Title/Position, Degrees, ORCiD ID (format: XXXX-XXXX-XXXX-XXXX), Email, Career status
        - Early-Career Definition: In the context of this RFA, an early-career investigator is someone who has been in an independent position for zero to six years at the time of application, i.e. have started their first independent position between May 24, 2016 and May 24, 2022.
        - Mid-Career Definition: In the context of this RFA, a mid-career investigator is someone who has been in an independent position for more than six to 10 years at the time of application, i.e. have started their first independent position between May 24, 2012 and May 23, 2016.
    - Organization Name, Country, Website
    - Type of organization (Academic, Other Non-profit, Government, Other).
    - Tax ID: Enter your organization's Employer Identification Number (EIN), as assigned by the Internal Revenue Service in the 9-digit format (XX-XXXXXXX; total of 10 characters). Foreign organizations or others who do not have an EIN should enter 44-4444444.
- Role Description of Each PI: Describe the role and expertise in the context of project delivery of each PI on the project (maximum of 500 words).
- Interdisciplinary Teams: We recognize that the collaborative nature of this work requires bringing together experts in several different areas who may or may not have worked together previously. Describe the team including: any existing collaborations, and how the collaboration is structured to promote equity among those involved, ensure good communication and productivity, and center the voice of patients. This section may/should also highlight diversity of the scientific team or equity among international collaborations (maximum of 500 words).

- **Project Proposal:** Upload your project proposal as a single PDF; font must be 11 points or larger and margins must be at least one-half inch (top, bottom, left, and right) for all pages (letter size required). Include the following sections:
    - Proposal Body: (maximum of 2500 words, which includes 250 words for the Abstract)
        - Abstract: Copy your Abstract/Project Summary entered in the Project Details section here.
        - Scientific goals of the project: Define the scientific question or problem related to rare neurodegenerative disease biology that the team aims to explore, as well as the potential contribution of this project to wider rare disease and neurodegenerative disease biology. Clarify the rationale for how this project addresses a critical gap for the field and how the team is poised to address this

gap. How will this project advance progress on the chosen rare disease(s) and how does this work reflect the priorities of patients?
        - Patient organization collaboration: Inclusion of one Lead Patient Organization PI (Executive Director, Chief Scientific Officer, Research Coordinator, etc.) on this project is required. Describe how the patient organization and research team envision working together. Specifically, describe how the patient organization has been involved in the identification of research project priorities, and how they will be involved in the project from project design through to the dissemination of results.
        - Patient engagement plan: Describe how the project team, including the patient organization, intends to engage the patient community/communities, the research team/patient organizations' history with those communities, and other institutional, local, or regional partners that will be relied on.
        - If the project intends to use patient samples/tissue resources, please describe how the team will obtain the samples necessary for the project. Who will be involved in the collection of samples (i.e. the patient organization or other)? Will samples be banked for future studies, and if so, how and where, and who will have access to these samples? If using biobanked samples, please address how the biobank resource(s) will be replenished, maintained, and/or expanded via patient engagement activities, as well as how the results and benefits of the research will be shared with the donor patient communities from which they were acquired or have relevance to.
        - Tools and resources: Describe the tools, resources, and/or specific expertise that your group would like to develop or bring to this collaborative network of other projects working on rare diseases, and the tools/resources that could be generated by other networks—both within the rare disease community and perhaps within other CZI programs—that would benefit your work.
    - Figures/Preliminary Data (optional): Maximum of two pages, inclusive of legends. Figure legends do not count towards the word count.
    - References Cited in Your Proposal: No word/page limit; include complete source references.

- **Budget Description (5 page maximum):** Upload in PDF format; budgets should be uploaded in a combined single PDF; font must be 11 points or larger and margins must be at least one-half inch (top, bottom, left, and right) for all pages (letter size required). Provide a detailed description of the costs to be funded by this grant at a high level and in table format, outlining costs for personnel (including names, if known), supplies, equipment, travel, meetings/hackathons/sprints, subcontracts, other costs, and up to 15% indirect costs (excluding equipment and subcontracts).
    - **Total project budgets** should be $500,000 USD total costs (inclusive of up to 15 percent indirect costs) per year for a total of $2,000,000 USD total costs for 48 months.
        - We anticipate funding the research team for $400,000 USD total costs (inclusive of up to 15 percent indirect costs) per year for a total of $1,600,000

USD over a 48 month period. Indirect costs cannot exceed 15 percent of direct costs.
        - Budgets should include allocations for each patient organization for $100,000 USD total costs (inclusive of up to 15 percent indirect costs) per year for a total of $400,000 USD total costs over a 48 month period. This will be awarded separately and directly to the patient organization and is in addition to the $400,000 USD to the research team per year.
    - Indirect costs are limited to up to 15% of direct costs. Indirect costs may not be assessed on capital equipment or subcontracts, but subcontractors may include up to 15% indirect costs of their direct costs.
    - Budget should be requested in U.S. dollars.
    - Note that institutions outside the U.S. may not subcontract to U.S. institutions, so please be mindful when selecting the Coordinating PI/institution. International grantees must use all grant funds exclusively for activities conducted outside the United States of America. Travel expenses to the United States (including round-trip tickets) should not be covered from the requested grant funds. Any attendance at CZI meetings in the U.S. will be covered by CZI outside of requested grant funds.
    - Application budgets must reflect the actual needs of the proposal. The Chan Zuckerberg Initiative will work closely with successful applicants to arrive at a mutually acceptable budget after review.

- **Biosketches/resumes for Coordinating PI, Lead Patient Organization PI, and co-PIs**: Upload the biosketches in PDF format for the Coordinating PI, Lead Patient Organization PI, and for each of the co-PIs (for the Lead Patient Organization PI, please upload resume.) Biosketches/resumes can be uploaded in a combined single PDF or one PDF for each PI/co-PI; maximum of five pages per biosketch; NIH format or similar. Do not include any biosketches for any additional collaborators beyond the Coordinating PI, Lead Patient Organization PI, and co-PIs listed.

The formatting and component requirements, including word and page limits indicated above, will be enforced by the review team. Any submitted materials that exceed the word and page limits or do not follow the requirements will not be considered during the application review process.

## QUESTIONS?

For administrative and programmatic inquiries pertaining to this RFA, please contact sciencegrants@chanzuckerberg.com. For technical assistance with SMApply, please contact support@smapply.io or while logged into SMApply, click on the information ”i” link in the upper right corner and submit a help request ticket.