



Centers for Disease Control and Prevention

National Center for Environmental Health Extramural Research Program Office

Development and validation of laboratory procedures using next generation sequencing technologies to assess genes causing severe combined immune deficiency (SCID) in state newborn screening laboratories.

RFA-EH-15-002

Application Due Date: 04/06/2015

Development and validation of laboratory procedures using next generation sequencing technologies to assess genes causing severe combined immune deficiency (SCID) in state newborn screening laboratories.

RFA-EH-15-002

TABLE OF CONTENTS

Part 1. Overview Information

Key Dates
Required Application Instructions
Executive Summary

Part 2. Full Text

Section I. Funding Opportunity Description
Section II. Award Information
Section III. Eligibility Information
Section IV. Application and Submission Information
Section V. Application Review Information
Section VI. Award Administration Information
Section VII. Agency Contacts
Section VIII. Other Information

Part 1. Overview Information

Participating Organization(s)

Centers for Disease Control and Prevention

Components of Participating Organizations

National Center for Environmental Health Extramural Research Program Office (NCEH ERPO)
National Center for Environmental Health (NCEH)

Funding Opportunity Announcement (FOA) Title

Development and validation of laboratory procedures using next generation sequencing technologies to assess genes causing severe combined immune deficiency (SCID) in state newborn screening laboratories.

Activity Code

Funding Opportunity Announcement Type

New

Funding Opportunity Announcement Number

RFA-EH-15-002

Catalog of Federal Domestic Assistance (CFDA) Number(s)

93.070

Category of Funding Activity:

Health

FOA Purpose

This FOA is to develop, improve, and implement laboratory techniques to assess babies born with severe combined immunodeficiency (SCID) and other primary immunodeficiencies using next generation sequencing technologies as a second tier test in state newborn screening laboratories. CDC seeks to evaluate the potential of using next generation sequencing technologies in the state newborn screening laboratory setting. Results of this activity will be used to inform other state newborn screening laboratories about the feasibility of using next generation sequencing technologies in the state newborn screening laboratory setting to evaluate babies that screen positive for SCID and other primary immunodeficiencies. The ultimate goal is to improve treatment outcomes for babies with SCID or other primary immunodeficiencies.

The purpose of this FOA is to provide additional clarifying information based on questions received from potential applicants during the Pre-Application Conference Call or as a result of direct communication with the Scientific Program Official. A summary of the "questions and answers" begins on page 29.

Key Dates

Publication Date: To receive notification of any changes to RFA-EH-15-002, return to the synopsis page of this announcement at www.grants.gov and click on the "Send Me Change Notification Emails" link. An email address is needed for this service.

Letter of Intent Due Date: 03/11/2015

Application Due Date: 04/06/2015

On-time submission requires that electronic applications be error-free and made available to CDC for processing from eRA Commons on or before the deadline date. Applications must be submitted to and validated successfully by Grants.gov/eRA Commons no later than 5:00 PM U.S. Eastern Time. Note: HHS/CDC grant submission procedures do not provide a period of time beyond the application due date to correct any error or warning notices of noncompliance with application instructions that are identified by Grants.gov or eRA systems (i.e., error correction window).

Scientific Merit Review: 07/07/2015

This is an approximate date; actual date will be in July 2015.

Secondary Review: 07/22/2015

This is an approximate date; actual date will be in July 2015.

Estimated Start Date: 09/30/2015

This is an approximate date; actual date will be in September 2015.

Expiration Date: 04/07/2015

Due Dates for E.O. 12372: Due no later than 60 days after the application receipt date.

Required Application Instructions

It is critical that applicants follow the instructions in the [SF 424 \(R&R\) Application Guide](#) except where instructed to do otherwise in this FOA. Conformance to all requirements (both in the Application Guide and the FOA) is required and strictly enforced. Applicants must read and follow all application instructions in the Application Guide as well as any program-specific instructions noted in Section IV. When the program-specific instructions deviate from those in the Application Guide, follow the program-specific instructions.

Note: The Research Strategy component of the Research Plan is limited to 25 pages.

Applications that do not comply with these instructions may be delayed or not accepted for review.

Telecommunications for the Hearing Impaired: TTY 1-888-232-6348

Executive Summary

Purpose. This FOA seeks research to develop, improve, and implement laboratory techniques to assess babies born with severe combined immunodeficiency (SCID) and other primary immunodeficiencies using next generation sequencing technologies as a second tier test in state newborn screening laboratories.

Mechanism of Support. Cooperative Agreement.

Funds Available and Anticipated Number of Awards. NCEH intends to commit approximately \$350,000 in FY 2015 to fund one application. The maximum amount of the award for the first 12-month budget period is \$350,000 (direct and indirect costs). The actual amount awarded will depend upon the availability of funds and a sufficient number of meritorious applications. Because the nature and scope of the proposed research will vary from application to application, it is also anticipated that the size and duration of the award may also vary.

Budget and Project Period. The estimated total funding (direct and indirect costs) for the first 12-month budget period is expected to be \$350,000 (direct and indirect costs) and the estimated total funding for the entire 3-year project period is expected to be \$1,050,000 (direct and indirect costs). The project period will run from 09/30/2015 to 09/29/2018.

Application Research Strategy Length: Page limits for the Research Strategy are clearly specified in Section IV. Application and Submission Information of this announcement.

Eligible Institutions/Organizations. Institutions/organizations listed in Section III.1 are eligible to apply.

Eligible Project Directors/Principal Investigators (PDs/PIs). Individuals with the skills, knowledge, and resources necessary to carry out the proposed research are invited to work with their institution/organization to develop an application for support. NOTE: CDC does not make awards to individuals directly. Individuals from underrepresented racial and ethnic groups as well as individuals with disabilities are always encouraged to apply.

Number of PDs/PIs. Co-principal investigators from different state newborn screening programs are encouraged for this FOA; their names must appear on the face page of the application. However, one principal investigator must be designated as the contact PI. For institutions/organizations/state programs proposing multiple PDs/PIs, visit the Multiple Program Director/Principal Investigator Policy and submission details in the Senior/Key Person Profile (Expanded) Component of the SF 424 (R&R) Application Guide.

Number of Applications. Eligible applicant institutions may submit more than one application, provided that each application is scientifically distinct. However, applicant institutions can submit only one grant application with the same principal investigator.

Application Type. New.

Special Date(s).

- Letter of intent, if it is submitted, is due 30 days after publication.
- A pre-application teleconference call will be conducted on February 25, 2015, from 2:00 – 3:30 pm Eastern Time to address prospective applicants’ questions regarding FOA EH15-002, Development and validation of laboratory procedures using next generation sequencing technologies to assess genes causing severe combined immune deficiency (SCID) in state newborn screening laboratories.
 - PARTICIPANT ACCESS INFORMATION
 - CALL DATE: February 25, 2015
 - CALL TIME: 2:00 Eastern Time
 - CALL DURATION: 1 hour 30 minutes
 - CALL LEADER: Susan Neurath
 - Toll-Free Number: (855)-644-0229
 - Passcode: 8636049 #

Application Materials. See **Section IV.1** for application materials.

Hearing Impaired. Telecommunications for the hearing impaired are available at: TTY: (770) 488-2783.

Part 2. Full Text

Section I. Funding Opportunity Description

Statutory Authority

Awards are made under the authorization of Sections of the Public Health Service Act as amended and under the Code Federal Regulations. Awards are made under the authorization of Section 301 of the Public Health Service Act [42 U.S.C. Section 241], as amended.

1. Background and Purpose

Background

Newborn screening programs help promote health and prevent death by testing newborns for diseases that require immediate medical treatment but are not apparent at birth. Within days of birth, more than 98% of the 4 million babies born in the United States each year have blood drawn and collected on specific filter paper cards. These dried blood spots are immediately transported to state public health newborn screening

laboratories for analysis of specific biomarkers that help identify life-threatening diseases requiring early intervention.

Routine primary newborn screening tests favor the identification of as many affected newborns as possible while trying to limit the number of false positive tests. False positive test results add to newborn screening program costs and cause unnecessary stress and anxiety to families. One approach to achieve the best algorithm for screening involves combining primary, or first-tier, screening tests with second-tier tests to improve screening performance and provide additional information that would be helpful to health care professionals.

Since 1978, CDC has supported the state newborn screening laboratories through the Newborn Screening Quality Assurance Program. The Newborn Screening Quality Assurance Program helps state newborn screening laboratories ensure that both first-tier and second-tier testing accurately detects the biomarkers associated with newborn screening disorders. For over 30 years, the CDC's Newborn Screening Quality Assurance Program has performed this essential public health service, supporting the quality and accuracy of screening tests for millions of babies worldwide. The Program has grown from supporting 1 disorder in 1978 for 31 laboratory participants to more than 50 disorders for more than 600 laboratory participants in 2014.

Babies born with severe combined immunodeficiency (SCID) and other primary immunodeficiencies typically appear normal at birth and often have no family history of immunodeficiency. SCID and other primary immunodeficiencies alter the ability of the immune system to function properly, which makes babies susceptible to repeated infections and other health problems. Prior to the availability of newborn screening, most babies born with SCID and other primary immunodeficiencies were not identified until development of life-threatening infections that caused death before one year of age. In addition, babies with SCID are vulnerable to complications from the recommended course of pediatric vaccinations, especially the live rotavirus vaccine [1]. A 2002 study showed that babies with SCID who received a bone marrow transplant prior to three months of age had a greater than 95% chance of being cured of SCID [2]. A 2014 study showed survival for children with SCID receiving transplants before 3.5 months of age was significantly better than that for children with SCID receiving transplants after 3.5 months of age [3]. Evidence from this and other studies indicate that early detection via newborn screening is an essential factor in decreasing infant mortality from this disorder. Based on newborn screening data from 11 state newborn screening programs over the past six years, SCID affects 1 in 58,000 births (95% CI, 1/46,000-1/80,000) [4]. The early detection of these babies via newborn screening can prevent unnecessary morbidity and mortality.

In 2010 the Secretary's Advisory Committee on Heritable Disorders in Newborn Screening and Children, recommended the addition of SCID as the 30th core condition to the recommended uniform screening panel (RUSP). Later that same year, the United States Secretary of Health and Human Services approved the addition of SCID to the RUSP. As of January 2015, 27 states and the District of Columbia include SCID as part of their statewide newborn screening panel. In 2015, CDC will initiate a new funding opportunity announcement to award up to \$600,000 through cooperative agreements to state or territorial public health newborn screening programs that do not currently conduct statewide SCID newborn screening.

Current newborn screening for SCID involves the detection of the presence or absence of a biomarker called T-cell receptor excision circles (TRECs). TRECs are composed of a fragment of DNA excised from T-cell receptor genes in the human genome during the differentiation of T-cells in the thymus. This extra-chromosomal non-replicating DNA fragment circularizes and the newly formed junction of these two ends is a unique sequence providing a surrogate marker for T-cell maturation. TRECs can be amplified and quantitated using quantitative polymerase chain reaction (PCR). Babies with SCID have low or no TRECs.

There are many genes associated with T-cell maturation, and mutations in these genes can result in SCID. Once a baby has screened positive for SCID using the first tier assay to detect TRECs, knowledge of the mutation or mutations in genes that cause SCID can be assessed by second-tier genetic testing. This genetic testing is conducted on the original blood spot and may provide additional information about the baby to inform treatment options. Many different genetic mutations—both known and unknown—can cause SCID.

To efficiently analyze the many genes that can be causative of SCID, high-throughput, or next generation, sequencing methods are required. These methods are capable of evaluating the sequence for multiple mutations on multiple genes at the same time, as would be required for an appropriate second-tier test. To be effective for state newborn screening programs, this test would need to be able to provide robust information from a small amount of DNA extracted from the dried blood spot and be flexible enough to add new target genes as they are identified. Second-tier genetic screening for SCID performed in the public health laboratory would ensure equitable access to this knowledge.

Purpose

This FOA is to develop, improve, and implement laboratory techniques to assess babies born with severe combined immune deficiency (SCID) and other primary immunodeficiencies using next generation sequencing technologies as a second tier test in state newborn screening laboratories. CDC seeks to evaluate the potential of using next generation sequencing technologies in the state newborn screening laboratory setting. Results of this activity will be used to inform other state newborn screening laboratories about the feasibility of using next generation sequencing technologies in the state newborn screening laboratory setting to evaluate babies that screen positive for SCID and other primary immunodeficiencies. The ultimate goal is to improve treatment outcomes for babies with SCID or other primary immunodeficiencies.

The purpose of this FOA is to provide additional clarifying information based on questions received from potential applicants during the Pre-Application Conference Call or as a result of direct communication with the Scientific Program Official. A summary of the "questions and answers" begins on page 29.

References

1. Centers for Disease Control and Prevention (CDC). Addition of severe combined immunodeficiency as a contraindication for administration of rotavirus vaccine. MMWR Morb Mortal Wkly Rep. 2010 Jun 11;59(22):687-8. PubMed PMID: 20535093.
2. Myers LA, Patel DD, Puck JM, Buckley RH. Hematopoietic stem cell transplantation for severe combined immunodeficiency in the neonatal period leads to superior thymic output and improved survival. Blood. 2002 Feb 1;99(3):872-8. PubMed PMID: 11806989.
3. Pai SY, Logan BR, Griffith LM, et al. Transplantation outcomes for severe combined immunodeficiency, 2000-2009. N Engl J Med. 2014 Jul 31;371(5):434-46. doi: 10.1056/NEJMoa1401177. PubMed PMID: 25075835; PubMed Central PMCID: PMC4183064.
4. Kwan A, Abraham RS, Currier R, et al. Newborn screening for severe combined immunodeficiency in 11 screening programs in the United States. JAMA. 2014 Aug 20;312(7):729-38. doi: 10.1001/jama.2014.9132. PubMed PMID: 25138334.

Healthy People 2020 and other National Strategic Priorities

This FOA directly addresses Healthy People 2020 priority area Maternal, Infant, and Child Health (MICH)-32: Increase appropriate newborn blood-spot screening and follow-up testing. Funding for states or territories to implement newborn screening for SCID will result in more newborns screened, identified, and referred for treatment. For more information, see www.healthypeople.gov.

Additionally, this research is consistent with the Secretary of Health and Human Services' adoption of SCID as a core condition on the Recommended Uniform Screening Panel (<http://www.hrsa.gov/advisorycommittees/mchbadvisory/heritabledisorders/recommendedpanel/index.html>).

Public Health Impact

SCID is a deadly disease that affects one in 40,000-100,000 live births. However, SCID is treatable if detected early in life. This activity seeks to improve newborn screening techniques for SCID and primary immunodeficiencies in state newborn screening laboratories which may improve treatment outcomes. Lessons learned will be shared with other state newborn screening laboratories.

Relevant Work

CDC's research and programs work to improve the effectiveness and availability of infant blood tests included in the state newborn screening systems.

In 2008, CDC awarded research funding via RFA-EH-08-002 to Wisconsin and Massachusetts to demonstrate the feasibility of statewide newborn screening for SCID. In 2011, CDC supported research in Michigan and Minnesota through RFA-EH-11-001 to implement SCID newborn screening programs in their states. In 2013, CDC provided non-research funds via RFA-EH-13-1303 to Georgia, Oklahoma, and Virginia to build capacity and implement SCID programs.

This FOA seeks research that builds on the previous successful research and non-research CDC-funded projects to implement newborn screening for SCID in state or territorial newborn screening laboratories.

2. Approach

Objectives/Outcomes

This research project seeks to utilize current next generation sequencing technologies to develop second-tier methods to identify mutations in genes that cause SCID and other primary immunodeficiencies in the high-throughput newborn screening laboratory setting. The immediate goal is to expand state newborn screening laboratory capacity to develop and implement targeted next generation sequencing approaches for genes associated with SCID and other primary immunodeficiencies. The ultimate goal is to improve treatment outcomes for babies born with SCID and other primary immunodeficiencies.

Research activities will address all of the following:

1. Develop and validate robust next generation sequencing methods for accurate and timely delivery of results consistent with the high throughput needs of state newborn screening programs. The proposed method should be inclusive of genes known to cause SCID and other primary immunodeficiencies, with appropriate coverage, and be scalable for the addition of new genes, as appropriate.
2. Ensure consistent high quality performance characteristics of the new method.
3. Partner with the CDC newborn screening laboratories to create and evaluate suitable quality assurance materials.
4. Partner with medical specialists to assure appropriate correlation for diagnosis and treatment.
5. Provide education and training for laboratory scientists, healthcare providers, state newborn screening program officials, and primary care physicians about state newborn screen tests for mutations in SCID genes.
6. Conduct a retrospective evaluation of screened positive SCID samples either within-state or in collaboration with partner state programs to validate the method and evaluate mutations in genes that may cause SCID and other primary immunodeficiencies.

Target Population

The target population of this research focuses on infants born in any type of US hospital, but will also be relevant to the infants' parents and health care providers.

Collaboration/Partnerships

In order to conduct this critical research, applicants are expected to represent or have a well-developed, established collaboration with an active state newborn screening program capable of testing for SCID and other primary immunodeficiencies. The primary research team should include investigators experienced with medical care for newborns with SCID and other primary immunodeficiencies and investigators experienced with next generation sequencing technologies. Documentation of the collaboration is illustrated by letters of support, memorandum of understanding or agreement, or an interagency plan that details the nature and extent of the involvement from the performing organization and outside entities. Documentation of the collaboration must be included in the appendix of the application. Applications without documentation of collaboration with an active state newborn screening program capable of testing for SCID and other primary immunodeficiencies will be considered nonresponsive and will not be submitted for review.

Evaluation/Performance Measurement

Applicants are expected to provide measures of effectiveness that will demonstrate the accomplishment of the proposed project objectives. Applicants are expected to develop and conduct a retrospective evaluation of screened positive SCID samples to validate the sequencing method and evaluate mutations in genes that may cause SCID and other primary immunodeficiencies.

Translation Plan

Research findings should be disseminated through publications, including articles in peer reviewed journals and "Research Briefs" for diverse audiences, as well as presentations at professional conferences and other venues. Relevant research findings should be disseminated through education and training for laboratory scientists, healthcare providers, newborn screening program officials, and primary care physicians. An explanation for how the scientific findings will be translated into public health programs, policies or practice should be included.

Section II. Award Information

Funding Instrument Type: Cooperative Agreement
A support mechanism used when there will be substantial Federal scientific or programmatic involvement. Substantial involvement means that, after award, scientific or program staff will assist, guide, coordinate, or participate in project activities.

Application Types Allowed:

New - An application that is submitted for funding for the first time. Includes multiple submission attempts within the same round.

Estimated Total Funding: \$350,000

NCEH intends to commit approximately \$350,000 in FY 2015 to fund one application. The estimated total funding for the first 12-month budget period is expected to be \$350,000 (direct and indirect costs) and the estimated total funding for the entire 3-year project period is expected to be \$1,050,000 (direct and indirect costs). The project period will run from 09/30/2015 to 09/29/2018.

Anticipated Number of Awards: 1

Awards issued under this FOA are contingent on the availability of funds and submission of a sufficient number of meritorious applications.

Award Ceiling: \$350,000 Per Budget Period

Award Floor: \$350,000 Per Budget Period

Total Project Period Length: 3 year(s)

Throughout the project period, CDC's commitment to continuation of awards will depend on the availability of funds, evidence of satisfactory progress by the recipient (as documented in required reports), and CDC's determination that continued funding is in the best interest of the Federal government.

HHS/CDC grants policies as described in the HHS Grants Policy Statement (<http://www.hhs.gov/asfr/ogapa/aboutog/hhsgps107.pdf>) will apply to the applications submitted and awards made in response to this FOA.

Section III. Eligibility Information

1. Eligible Applicants

Eligibility Category:

- State governments
- County governments
- City or township governments
- Special district governments
- Independent school districts
- Public and State controlled institutions of higher education
- Native American tribal governments (Federally recognized)
- Public housing authorities/Indian housing authorities
- Native American tribal organizations (other than Federally recognized tribal governments)
- Nonprofits having a 501(c)(3) status with the IRS, other than institutions of higher education
- Nonprofits without 501(c)(3) status with the IRS, other than institutions of higher education
- Private institutions of higher education
- For profit organizations other than small businesses
- Small businesses
- Others (see text field entitled "Additional Information on Eligibility" for clarification)
- Unrestricted (i.e., open to any type of entity above), subject to any clarification in text field entitled "Additional Information on Eligibility"

The following types of Higher Education Institutions are always encouraged to apply for CDC support as Public or Private Institutions of Higher Education:

- Hispanic-serving Institutions
- Historically Black Colleges and Universities (HBCUs)
- Tribally Controlled Colleges and Universities (TCCUs)
- Alaska Native and Native Hawaiian Serving Institutions

Nonprofits Other Than Institutions of Higher Education:

- Nonprofits (Other than Institutions of Higher Education)

Governments:

Eligible Agencies of the Federal Government
U.S. Territory or Possession

Other:

Native American tribal organizations (other than Federally recognized tribal governments)
Faith-based or Community-based Organizations
Regional Organizations
Bona Fide Agents: a Bona Fide Agent is an agency/organization identified by the state as eligible to submit an application under the state eligibility in lieu of a state application. If applying as a bona fide agent of a state or local government, a legal, binding agreement from the state or local government as documentation of the status is required. Attach with "Other Attachment Forms" when submitting via www.grants.gov.

2. Foreign Organizations

Foreign Organizations are not eligible to apply.

Foreign components of U.S. Organizations are not eligible to apply.

For this announcement, applicants may include collaborators or consultants from foreign institutions. All applicable federal laws and policies apply.

3. Special Eligibility Requirements

This FOA seeks research to develop, improve, and implement laboratory techniques to assess babies born with severe combined immune deficiency (SCID) and other primary immunodeficiencies using next generation sequencing technologies as a second tier test in state newborn screening laboratories. Applicants must represent or be part of a coordinated partnership with an established state or territorial newborn screening program and research activities must occur within the high-throughput state newborn screening setting to ensure implementation of research findings. Documentation of collaborations includes letters of support, memoranda of understanding or agreement, or interagency plans. The documentation must describe the nature and extent of the relationship and be included in the appendix. Applications without documentation of established collaborations with a state or territorial newborn screening program will be considered nonresponsive and will not be submitted for review.

The purpose of this FOA is to provide additional clarifying information based on questions received from potential applicants during the Pre-Application Conference Call or as a result of direct communication with the Scientific Program Official. A summary of the "questions and answers" begins on page 29.

4. Justification for Less than Maximum Competition

N/A

5. Responsiveness

- Applicants must represent or clearly describe the relationship with the participating state or territorial newborn screening program.
- Proposed research activities must occur in the state public health newborn screening laboratory.
- If the applicant is collaborating with the participating state or territorial newborn screening program, documentation of the collaboration must be included in the appendix.
- Application must include documentation of all collaborations described in the proposal. Documentation of the collaboration is illustrated by letters of support, memoranda of understanding or agreement, or an interagency plan that details the nature and extent of the involvement from the performing organization and outside entities. These items need to be clearly described in the proposal and included in the appendix.
- Applications may not exceed any referenced page limits.

6. Required Registrations

Applicant organizations must complete the following registrations as described in the SF 424 (R&R) Application Guide to be eligible to apply for or receive an award. Applicants must have a valid Dun and Bradstreet Universal Numbering System (DUNS) number in order to begin each of the following registrations.

- (Foreign entities only): Special Instructions for acquiring a Commercial and Governmental Entity (NCAGE) Code: <https://eportal.nspa.nato.int/AC135Public/Docs/US%20Instructions%20for%20NSPA%20NCAGE.pdf>
- System for Award Management (SAM) – must maintain current registration in SAM (the replacement system for the Central Contractor Registration) to be renewed annually, <https://www.sam.gov/portal/SAM/#1>.
- Grants.gov
- eRA Commons

All applicant organizations must register with **Grants.gov**. Please visit www.Grants.gov at least 30 days prior to submitting your application to familiarize yourself with the registration and submission processes. The “one-time” registration process will take three to five days to complete. However, it is best to start the registration process at least two weeks prior to application submission.

All Program Directors/Principal Investigators (PD/Pis) **must** also work with their institutional officials to register with the **eRA Commons** or ensure their existing eRA Commons account is affiliated with the eRA Commons account of the applicant organization. **All registrations must be successfully completed and active before the application due date.** Applicant organizations are strongly encouraged to start the registration process at least four (4) weeks prior to the application due date.

7. Universal Identifier Requirements and System for Award Management (SAM)

All applicant organizations **must obtain** a DUN and Bradstreet (D&B) Data Universal Numbering System (DUNS) number as the Universal Identifier when applying for Federal grants or cooperative agreements. The DUNS number is a nine-digit number assigned by Dun and Bradstreet Information Services. An AOR should be consulted to determine the appropriate number. If the organization does not have a DUNS number, an AOR should complete the [US D&B D-U-N-S Number Request Web Form](#) or contact Dun and Bradstreet by telephone directly at 1-866-705-5711 (toll-free) to obtain one. A DUNS number will be provided immediately by telephone at no charge. Note this is an organizational number. Individual Program Directors/Principal Investigators do not need to register for a DUNS number.

Additionally, all applicant organizations must register in the **System for Award Management (SAM)**. Organizations must maintain the registration with current information at all times during which it has an application under consideration for funding by CDC and, if an award is made, until a final financial report is submitted or the final payment is received, whichever is later. SAM is the primary registrant database for the

Federal government and is the repository into which an entity must provide information required for the conduct of business as a recipient. Additional information about registration procedures may be found at the SAM internet site at <https://www.sam.gov/index.html>.

If an award is granted, the grantee organization **must** notify potential sub-recipients that no organization may receive a subaward under the grant unless the organization has provided its DUNS number to the grantee organization.

8. Eligible Individuals (Project Director/Principal Investigator) in Organizations/Institutions

Any individual(s) with the skills, knowledge, and resources necessary to carry out the proposed research as the Project Director/Principal Investigator (PD/PI) is invited to work with his/her organization to develop an application for support. Individuals from underrepresented racial and ethnic groups as well as individuals with disabilities are always encouraged to apply for HHS/CDC support.

9. Cost Sharing

This FOA does not require cost sharing as defined in the HHS Grants Policy Statement (<http://www.hhs.gov/asfr/ogapa/aboutog/hhsgps107.pdf>).

10. Number of Applications

As defined in the HHS Grants Policy Statement, (<http://www.hhs.gov/asfr/ogapa/aboutog/hhsgps107.pdf>), applications received in response to the same funding opportunity announcement generally are scored individually and then ranked with other applications under peer review in their order of relative programmatic, technical, or scientific merit. HHS/CDC will not accept any application in response to this FOA that is essentially the same as one currently pending initial peer review unless the applicant withdraws the pending application.

Applicant organizations may submit more than one application, provided that each application is scientifically distinct. However, applicant institutions can submit only one grant application with the same principal investigator.

Section IV. Application and Submission Information

1. Address to Request Application Package

Applicants must download the SF424 (R&R) application package associated with this funding opportunity from www.Grants.gov.

If access to the Internet is not available or if the applicant encounters difficulty accessing the forms on-line, contact the HHS/CDC Procurement and Grants Office Technical Information Management Section (PGO TIMS) staff at (770) 488-2700 or pgotim@cdc.gov for further instructions. Hours: Monday - Friday, 7am – 4:30pm U.S. Eastern Standard Time. CDC Telecommunications for the hearing impaired or disabled is available at: TTY 1-888-232-6348.

2. Content and Form of Application Submission

It is critical that applicants follow the instructions in the SF424 (R&R) Application Guide (http://grants.nih.gov/grants/funding/424/SF424_RR_Guide_General_VerC.pdf), except where instructed in this Funding Opportunity Announcement to do otherwise. Conformance to the requirements in the Application Guide is required and strictly enforced. Applications that are out of compliance with these instructions may be delayed or not accepted for review.

The forms package associated with this FOA includes all applicable components, mandatory and optional. Please note that some components marked optional in the application package are required for submission of applications for this FOA. Follow the instructions in the SF 424 (R&R) Application Guide to ensure you complete all appropriate “optional” components.

In conjunction with the SF424 (R&R) components, CDC grants applicants should also complete and submit

additional components titled “PHS398.” Note the PHS398 should include assurances and certifications, additional data required by the agency for a complete application. While these are not identical to the PHS398 application form pages, the PHS398 reference is used to distinguish these additional data requirements from the data collected in the SF424 (R&R) components. A complete application to CDC will include SF424 (R&R) and PHS398 components.

3. Letter of Intent

Due Date for Letter of Intent: **03/11/2015**

Although a letter of intent is not required, is not binding, and does not enter into the review of a subsequent application, the information that it contains allows CIO staff to estimate the potential review workload and plan the review.

By the date listed above and in Part 1. Overview Information, prospective applicants are asked to submit a letter of intent that includes the following information:

Name of the Applicant
Descriptive title of proposed research
Name, address, and telephone number of the PD(s)/PI(s)
Names of other key personnel
Participating institutions
Number and title of this funding opportunity

The letter of intent should be sent to:

Jane Suen, DrPH

Scientific Research Official

for the National Center for Environmental Health, ATSDR, and NCIPC

Centers for Disease Control and Prevention (CDC)

4770 Buford Hwy, NE Mailstop F-63

Atlanta, GA 30341

Telephone: 770-488-4281

Email: JXS8@cdc.gov

4. Required and Optional Components

A complete application has many components, both required and optional. The forms package associated with this FOA in Grants.gov includes all applicable components for this FOA, required and optional.

5. PHS 398 Research Plan Component

The SF424 (R&R) Application Guide includes instructions for applicants to complete a PHS 398 Research Plan that consists of 16 components. Not all 16 components of the Research Plan apply to all Funding Opportunity Announcements (FOAs). Specifically, some of the following 16 components are for Resubmissions or Revisions only. See Part I, Section 5.5 of the SF 424 (R&R) Application Guide (http://grants.nih.gov/grants/funding/424/SF424_RR_Guide_General_VerC.pdf) for additional information. Please attach applicable sections of the following Research Plan components as directed in Part 2, Section 1 (Funding Opportunity Announcement Description).

Follow the page limits stated in the SF 424 unless otherwise specified in the FOA. As applicable to and specified in the FOA, the application should include the bolded headers in this section and should address activities to be conducted over the course of the entire project, including but not limited to:

- 1. Introduction to Application** (for Resubmission and Revision ONLY) - provide a clear description about the purpose of the proposed research and how it addresses the specific requirements of the FOA.
- 2. Specific Aims** – state the problem the proposed research addresses and how it will result in public health impact and improvements in population health.
- 3. Research Strategy** – the research strategy should be organized under 3 headings: Significance, Innovation and Approach. Describe the proposed research plan, including staffing and timeline.
- 4. Inclusion Enrollment Report** (Renewal and Revision applications ONLY)
- 5. Progress Report Publication List** (for Continuation ONLY)

Human Subjects Section

- 6. Protection of Human Subjects**
- 7. Inclusion of Women and Minorities**
- 8. Targeted/Planned Enrollment Table** (for New Application ONLY)
- 9. Inclusion of Children**

Other Research Plan Sections

- 10. Vertebrate Animals**
- 11. Select Agent Research**
- 12. Multiple PD/PI Leadership Plan.**
- 13. Consortium/Contractual Arrangements**
- 14. Letters of Support**
- 15. Resource Sharing Plan(s)**
- 16. Appendix**

Component 4 (Inclusion Enrollment Report) applies only to Renewal and Revision applications for clinical research. Clinical research is that which is conducted with human subjects (or on material of human origin such as tissues, specimens and cognitive phenomena) for which an investigator (or colleague) directly interacts with human subjects. Excluded from this definition are in vitro studies that utilize human tissues that cannot be linked to a living individual. Patient-oriented research includes: (a) mechanisms of human disease, (b) therapeutic interventions, (c) clinical trials, and (d) development of new technologies). Follow the page limits in the SF 424 **unless otherwise specified in the FOA.**

All instructions in the SF424 (R&R) Application Guide (http://grants.nih.gov/grants/funding/424/SF424_RR_Guide_General_VerC.pdf) must be followed along with any additional instructions provided in the FOA.

6. Appendix

Do not use the appendix to circumvent page limits. A maximum of 10 PDF documents are allowed in the appendix. Additionally, up to 3 publications may be included that are not publically available. Follow all instructions for the Appendix as described in the SF424 (R&R) Application Guide.

7. Page Limitations

All page limitations described in this individual FOA must be followed. For this specific FOA, the Research Strategy component of the Research Plan narrative is limited to 25 pages. Supporting materials for the Research Plan narrative included as appendices may not exceed 10 PDF files with a maximum of 60 pages for all appendices.

8. Format for Attachments

Designed to maximize system-conducted validations, multiple separate attachments are required for a complete application. When the application is received by the agency, all submitted forms and all separate attachments are combined into a single document that is used by peer reviewers and agency staff. Applicants should ensure that all attachments are uploaded to the system.

CDC requires all text attachments to the Adobe application forms be submitted as PDFs and that all text attachments conform to the agency-specific formatting requirements noted in the SF424 (R&R) Application Guide (Part I, Section 2) (http://grants.nih.gov/grants/funding/424/SF424_RR_Guide_General_VerC.pdf).

9. Submission Dates & Times

Part I. Overview Information contains information about Key Dates. Applicants are encouraged to submit in advance of the deadline to ensure they have time to make any application corrections that might be necessary for successful submission.

Organizations must submit applications via [Grants.gov](http://www.grants.gov) (<http://www.grants.gov>), the online portal to find and apply for grants across all Federal agencies. The eRA Commons systems retrieve the application from Grants.gov and check the application against CDC business rules. If no errors are found, the application will be assembled in the eRA Commons for viewing by the applicant before moving on for further CDC processing.

If errors are found, the applicant will be notified in the eRA Commons. They must make required changes to the local copy of their application and submit again through Grants.gov.

Applicants are responsible for viewing their application in the eRA Commons to ensure accurate and successful submission.

Once you can see your application in the Commons, be sure to review it carefully as this is what the reviewer will see. Applicants must then complete the submission process by tracking the status of the application in the eRA Commons (http://grants.nih.gov/grants/guide/url_redirect.htm?id=11123).

Information on the submission process is provided in the SF424 (R&R) Application Guide.

Note: HHS/CDC grant submission procedures do not provide a period of time beyond the grant application due date to correct any error or warning notices of noncompliance with application instructions that are identified by Grants.gov or eRA systems (i.e. error correction window).

The application package is not complete until it has passed the Grants.gov/eRA Commons validation process. This process and email notifications of receipt, validation or rejection may take two (2) business days.

Applicants are strongly encouraged to allocate additional time prior to the submission deadline to submit their applications and to correct errors identified in the validation process. Applicants are encouraged also to check the status of their application submission to determine if the application packages are complete and error-free. Applicants who encounter system errors when submitting their applications must attempt to resolve them by contacting the Grants.gov Contact Center (1-800-518-4726; support@grants.gov). If the system errors cannot be resolved, applicants must contact CDC PGO TIMS at 770-488-2700; www.pgotim@cdc.gov for guidance at least 3 calendar days before the deadline date.

After submission of your application package, applicants will receive a “submission receipt” email generated by Grants.gov. Grants.gov will then generate a second e-mail message to applicants which

will either validate or reject their submitted application package. This validation process may take as long as two (2) business days. A third and final e-mail message is generated once the applicant's application package has passed validation and the grantor has confirmed receipt of the application.

Unsuccessful Submissions:

If an application submission was unsuccessful, *the applicant* must:

1. Track his/her submission and verify the submission status (tracking should be done initially regardless of rejection or success).
 - a. If the status states "*rejected*," do #2a or #2b.
2. Check his/her emails from both Grants.gov and eRA Commons for rejection notices.
 - a. If the deadline has passed, he/she should email the Grant Management Specialist listed in the FOA (pgotim@cdc.gov) explaining why the submission failed.
 - b. If there is time before the deadline, he/she should correct the problem(s) and resubmit as soon as possible.

Due Date for Applications: **04/06/2015**

Electronically submitted applications must be submitted no later than 5:00 p.m., ET, on the listed application due date.

10. Intergovernmental Review (E.O. 12372)

Your application is subject to Intergovernmental Review of Federal Programs, as governed by Executive Order 12372 (<http://www.archives.gov/federal-register/codification/executive-order/12372.html>). This order sets up a system for state and local review of proposed federal assistance applications. You should contact your state single point of contact (SPOC) as early as possible to alert the SPOC to prospective applications, and to receive instructions on your state's process. Click on the following link to get the current SPOC list: http://www.whitehouse.gov/omb/grants_spoc/.

11. Funding Restrictions

All HHS/CDC awards are subject to the terms and conditions, cost principles, and other requirements described in the HHS Grants Policy Statement. Pre-award costs may be allowable as an expanded authority, but only if authorized by CDC.

For more information on expanded authority and pre-award costs, go to: <http://www.hhs.gov/asfr/ogapa/aboutog/hhsgps107.pdf>.

12. Other Submission Requirements and Information

Application Submission

Applications must be submitted electronically following the instructions described in the SF 424 (R&R) Application Guide. **PAPER APPLICATIONS WILL NOT BE ACCEPTED.**

Applicants must complete all required registrations before the application due date. Section III.6 "Required Registrations" contains information about registration.

For assistance with your electronic application or for more information on the electronic submission process, visit Applying Electronically (http://grants.nih.gov/grants/guide/url_redirect.htm?id=11144).

Important reminders:

All PD/PIs must include their eRA Commons ID in the Credential field of the Senior/Key Person

Profile Component of the SF 424(R&R) Application Package. Failure to register in the Commons and to include a valid PD/PI Commons ID in the credential field will prevent the successful submission of an electronic application to CDC.

The applicant organization must ensure that the DUNS number it provides on the application is the same number used in the organization's profile in the eRA Commons and for the System for Award Management (SAM). Additional information may be found in the SF424 (R&R) Application Guide.

If the applicant has an FWA number, enter the 8-digit number. Do not enter the letters "FWA" before the number. If a Project/Performance Site is engaged in research involving human subjects, the applicant organization is responsible for ensuring that the Project/Performance Site operates under and appropriate Federal Wide Assurance for the protection of human subjects and complies with 45 CFR Part 46 and other CDC human subject related policies described in Part II of the SF 424 (R&R) Application Guide and in the HHS Grants Policy Statement.

See more resources to avoid common errors and submitting, tracking, and viewing applications: http://grants.nih.gov/grants/ElectronicReceipt/avoiding_errors.htm or http://grants.nih.gov/grants/ElectronicReceipt/submit_app.htm

Upon receipt, applications will be evaluated for completeness by the CDC Procurement and Grants Office (PGO) and responsiveness by PGO and the Center, Institute or Office of the CDC. Applications that are incomplete and/or nonresponsive will not be reviewed.

Section V. Application Review Information

1. Criteria

Only the review criteria described below will be considered in the review process. As part of the CDC mission (<http://www.cdc.gov/about/organization/mission.htm>), all applications submitted to the CDC in support of public health research are evaluated for scientific and technical merit through the CDC peer review system.

Overall Impact

Reviewers will provide an overall impact/priority score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following review criteria and additional review criteria (as applicable for the project proposed).

Scored Review Criteria

Reviewers will consider each of the review criteria below in the determination of scientific merit, and give a separate score for each. An application does not need to be strong in all categories to be judged likely to have major scientific impact. For example, a project that by its nature is not innovative may be essential to advance a field.

Significance

Does the project address an important problem or a critical barrier to progress in the field? If the aims of the project are achieved, how will scientific knowledge, technical capability, and/or clinical practice be improved? How will successful completion of the aims change the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field?

- Does the work address a scientific problem of great importance to public health research and/or practice?
- What is the potential or actual impact of the research on public health in the US?
- Will the work be influential in that it will lead others to investigate the problem, open new areas of research, or change the scientific approach or public health practice, and how will this improve and be of value to public health?
- If successful, do the research results have the potential to be scalable and reach a large portion of the population at risk?
- If successful, do the research results have the potential to reach other state newborn screening programs?

Investigator(s)

Are the PD/PIs, collaborators, and other researchers well suited to the project? Have they demonstrated an ongoing record of accomplishments that have advanced their field(s)? If the project is collaborative or multi-PD/PI, do the investigators have complementary and integrated expertise; are their leadership approach, governance and organizational structure appropriate for the project?

- Is there evidence of past collaborations with the proposed research team?
- Have previous research results provided high quality outputs and contributed to improvements in public health practice and population health?
- Do the PD/PIs or co-PIs have demonstrated experience (as documented by their biosketch) in an active SCID newborn screening program in an US state?
- Do the PD/PIs or co-PIs have demonstrated experience (as documented by their biosketch) in current next generation sequencing technologies?
- Is a curriculum vitae provided for each key researcher in the appendix?

Innovation

Does the application challenge and seek to shift current research or clinical practice paradigms by utilizing novel theoretical concepts, approaches or methodologies, instrumentation, or interventions? Are the concepts, approaches or methodologies, instrumentation, or interventions novel to one field of research or novel in a broad sense? Is a refinement, improvement, or new application of theoretical concepts, approaches or methodologies, instrumentation, or interventions proposed?

- Is the proposed research innovative and yet offer reasonable potential for concrete applications of interest and value to CDC?
- Does the project have the potential to increase efficiency or effectiveness of SCID testing for state newborn screening programs?

Approach

Are the overall strategy, methodology, and analyses well-reasoned and appropriate to accomplish the specific aims of the project? Are potential problems, alternative strategies, and benchmarks for success presented? If the project is in the early stages of development, will the strategy establish feasibility and will particularly risky aspects be managed?

If the project involves clinical research, are there plans for 1) protection of human subjects from research risks, and 2) inclusion of minorities and members of both sexes/genders, as well as the

inclusion of children, justified in terms of the scientific goals and research strategy proposed?

- Does the application propose to use evidence-based strategies in the research plan?
- Does the strategy establish scalability?
- Does the application include an evaluation plan that describes the methodology for a retrospective evaluation of screened positive SCID samples to validate the sequencing method and evaluate mutations in genes that may cause SCID and other primary immunodeficiencies?
- Does the translation plan describe how the results from the research could be disseminated and ultimately used?
- Does the application clearly describe the PD/PI's relationship with the state newborn screening program and newborn screening laboratory?
- Does the application include documentation of collaborations with appropriate medical specialists in the appendix (including memorandum of understanding, letter of support)?
- Are the collaborations well described and document the type and level of effort to be provided by each participant?
- Does the applicant describe the agency's structure, and support from partnering programs and/or agencies?
- Does the applicant describe the roles and responsibilities of key personnel and their organizational support for these research activities necessary for achieving the research objectives?

Environment

Will the scientific environment in which the work will be done contribute to the probability of success? Are the institutional support, equipment and other physical resources available to the investigators adequate for the project proposed? Will the project benefit from unique features of the scientific environment, subject populations, or collaborative arrangements?

- Is there evidence of institutional support?
- Does the applicant's institution have an active SCID newborn screening program?
- Does the applicant demonstrate sufficient laboratory infrastructure and capabilities to perform newborn screening using next generation molecular techniques?
- Does the applicant represent or have a documented relationship with an active SCID newborn screening program? Evidence of this relationship is with a memorandum of understanding or a letter of support included in the appendix.

2. Additional Review Criteria

As applicable for the project proposed, *reviewers will evaluate* the following additional items while determining scientific and technical merit, and in providing an overall impact/priority score, but *will not give separate scores* for these items.

Protections for Human Subjects

If the research involves human subjects but does not involve one of the six categories of research that are exempt under [45 CFR Part 46](#), the committee will evaluate the justification for involvement of human subjects and the proposed protections from research risk relating to their participation according to the following five review criteria: 1) risk to subjects, 2) adequacy of protection against risks, 3) potential benefits to the subjects and others, 4) importance of the knowledge to be gained, and 5) data and safety monitoring for clinical trials.

For research that involves human subjects and meets the criteria for one or more of the six categories of

research that are exempt under 45 CFR Part 46, the committee will evaluate: 1) the justification for the exemption, 2) human subjects involvement and characteristics, and 3) sources of materials. For additional information on review of the Human Subjects section, please refer to the HHS/CDC Requirements under AR-1 Human Subjects Requirements

(http://www.cdc.gov/od/pgo/funding/grants/additional_req.shtm#ar1).

If your proposed research involves the use of human data and/or biological specimens, you must provide a justification for your claim that no human subjects are involved in the Protection of Human Subjects section of the Research Plan.

Inclusion of Women, Minorities, and Children

When the proposed project involves clinical research, the committee will evaluate the proposed plans for inclusion of minorities and members of both genders, as well as the inclusion of children. For additional information on review of the Inclusion section, please refer to the policy on the Inclusion of Women and Racial and Ethnic Minorities in Research

(http://www.cdc.gov/maso/Policy/Policy_women.pdf and

<http://www.gpo.gov/fdsys/pkg/FR-1995-09-15/pdf/95-22950.pdf#page=1>) and the policy on the Inclusion of Persons Under 21 in Research (<http://www.cdc.gov/maso/Policy/policy496.pdf>).

Vertebrate Animals

The committee will evaluate the involvement of live vertebrate animals as part of the scientific assessment according to the following five points: 1) proposed use of the animals, and species, strains, ages, sex, and numbers to be used; 2) justifications for the use of animals and for the appropriateness of the species and numbers proposed; 3) adequacy of veterinary care; 4) procedures for limiting discomfort, distress, pain and injury to that which is unavoidable in the conduct of scientifically sound research including the use of analgesic, anesthetic, and tranquilizing drugs and/or comfortable restraining devices; and 5) methods of euthanasia and reason for selection if not consistent with the AVMA Guidelines on Euthanasia. For additional information on review of the Vertebrate Animals section, please refer to the Worksheet for Review of the Vertebrate Animal Section

(http://grants.nih.gov/grants/guide/url_redirect.htm?id=11150).

Biohazards

Reviewers will assess whether materials or procedures proposed are potentially hazardous to research personnel and/or the environment, and if needed, determine whether adequate protection is proposed.

3. Additional Review Considerations

As applicable for the project proposed, reviewers will consider each of the following items, but *will not give scores* for these items, and should not consider them in providing an overall impact/priority score.

Resource Sharing Plans

HHS/CDC policy requires that recipients of grant awards make research resources and data readily available for research purposes to qualified individuals within the scientific community after publication. Please see: http://www.cdc.gov/od/pgo/funding/grants/additional_req.shtm#ar25.

Investigators responding to this funding opportunity should include a plan on sharing research resources and data.

Budget and Period of Support

Reviewers will consider whether the budget and the requested period of support are fully justified and reasonable in relation to the proposed research. The applicant can obtain guidance for completing a

detailed justified budget on the CDC website, at the following Internet address: <http://www.cdc.gov/od/pgo/funding/budgetguide.htm>.

4. Review and Selection Process

Applications will be evaluated for scientific and technical merit by an appropriate peer review group, in accordance with CDC peer review policy and procedures, using the stated review criteria.

As part of the scientific peer review, all applications:

- Will undergo a selection process in which only those applications deemed to have the highest scientific and technical merit (generally the top half of applications under review), will be discussed and assigned an overall impact/priority score.
- Will receive a written critique.

Applications will be assigned to the appropriate HHS/CDC Center, Institute, or Office. Applications will compete for available funds with all other recommended applications submitted in response to this FOA. Following initial peer review, recommended applications will receive a second level of review. The following will be considered in making funding decisions:

- Scientific and technical merit of the proposed project as determined by scientific peer review.
- Availability of funds.
- Relevance of the proposed project to program priorities.
- Significance of the proposed activities in relation to the priorities and objectives stated in "Healthy People 2020".

5. Anticipated Announcement and Award Dates

After the peer review of the application is completed, the PD/PI will be able to access his or her Summary Statement (written critique) and other pertinent information via the eRA Commons.

Section VI. Award Administration Information

1. Award Notices

Any applications awarded in response to this FOA will be subject to the DUNS, SAM Registration, and Transparency Act requirements. If the application is under consideration for funding, HHS/CDC will request "just-in-time" information from the applicant as described in the HHS Grants Policy Statement (<http://www.hhs.gov/asfr/ogapa/aboutog/hhsgps107.pdf>).

A formal notification in the form of a Notice of Award (NoA) will be provided to the applicant organization for successful applications. The NoA signed by the Grants Management Officer is the authorizing document and will be sent via email to the grantee's business official.

Awardees must comply with any funding restrictions as described in Section IV.11. Funding Restrictions. Selection of an application for award is not an authorization to begin performance. Any costs incurred before receipt of the NoA are at the recipient's risk. These costs may be allowable as an expanded authority, but only if authorized by CDC.

2. CDC Administrative Requirements

Overview of Terms and Conditions of Award and Requirements for Specific Types of Grants

All HHS/CDC grant and cooperative agreement awards include the HHS Grants Policy Statement as part of the NoA. For these terms of award, see the HHS Grants Policy Statement Part II: Terms and Conditions of Award (<http://www.hhs.gov/asfr/ogapa/aboutog/hhsgps107.pdf>).

Awardees must comply with the administrative requirements (AR) outlined in 45 Code of Federal Regulations (CFR) Part 74 or Part 92, as appropriate, as well as any additional requirements included in the FOA.

Specific requirements that apply to this FOA are the following:

Generally applicable ARs:

[AR-1: Human Subjects Requirements](#)

[AR-2: Inclusion of Women and Racial and Ethnic Minorities in Research](#)

[AR-3: Animal Subjects Requirements](#)

[AR-7: Executive Order 12372 Review](#)

[AR-9: Paperwork Reduction Act Requirements](#)

[AR-10: Smoke-Free Workplace Requirements](#)

[AR-11: Healthy People 2020](#)

[AR-12: Lobbying Restrictions](#)

[AR-13: Prohibition on Use of CDC Funds for Certain Gun Control Activities](#)

[AR-14: Accounting System Requirements](#)

[AR-16: Security Clearance Requirement](#)

[AR-21: Small, Minority, And Women-owned Business](#)

[AR-22: Research Integrity](#)

[AR-24: Health Insurance Portability and Accountability Act Requirements](#)

[AR-25: Release and Sharing of Data](#)

[AR-26: National Historic Preservation Act of 1966](#)

[AR-28: Inclusion of Persons Under the Age of 21 in Research](#)

[AR-29: Compliance with EO13513, “Federal Leadership on Reducing Text Messaging while Driving”, October 1, 2009](#)

[AR-30: Information Letter 10-006, - Compliance with Section 508 of the Rehabilitation Act of 1973](#)

[AR 31 - Distinguishing Public Health Research and Public Health Nonresearch](#)

[AR 32 –; FY 2012 Enacted General Provisions](#)

ARs applicable to Conference Awards:

[AR-20: Conference Support](#)

[AR-27: Conference Disclaimer and Use of Logos](#)

Organization Specific ARs:

[AR-8: Public Health System Reporting Requirements](#)

[AR-15: Proof of Non-profit Status](#)

[AR 23: Compliance with 45 C.F.R. Part 87](#)

For more information on the Code of Federal Regulations, visit the National Archives and Records Administration at: <http://www.archives.gov/>.

To view brief descriptions of relevant CDC requirements visit: http://www.cdc.gov/od/pgo/funding/grants/additional_req.shtm.

3. Additional Policy Requirements

The following are additional policy requirements relevant to this FOA:

HHS Policy on Promoting Efficient Spending: Use of Appropriated Funds for Conferences and Meetings, Food, Promotional Items and Printing Publications

This policy supports the Executive Order on Promoting Efficient Spending (EO 13589), the Executive Order on Delivering and Efficient, Effective, and Accountable Government (EO 13576) and the Office of Management and Budget Memorandum on Eliminating Excess Conference Spending and Promoting Efficiency in Government (M-35-11). This policy apply to all new obligations and all funds appropriated by Congress. For more information, visit the HHS website at:

http://www.hhs.gov/asfr/ogapa/acquisition/effspendpol_memo.html)

Federal Funding Accountability and Transparency Act of 2006

Public Law 109-282, the Federal Funding Accountability and Transparency Act of 2006 as amended (FFATA), requires full disclosure of all entities and organizations receiving Federal funds including grants, contracts, loans and other assistance and payments through a single publicly accessible Web site, www.USASpending.gov (<http://www.usaspending.gov/>). For the full text of the requirements, please review the following website: <https://www.frs.gov/>.

Plain Writing Act

The Plain Writing Act of 2010 was signed into law on October 13, 2010. The law requires that federal agencies use "clear Government communication that the public can understand and use" and requires the federal government to write all new publications, forms, and publicly distributed documents in a "clear, concise, well-organized" manner. For more information on this law, go to: <http://www.plainlanguage.gov/plLaw/index.cfm>.

Tobacco and Nutrition Policies

The CDC supports implementing evidence-based programs and policies to reduce tobacco use and secondhand smoke exposure, and to promote healthy nutrition. CDC encourages all awardees to implement the following *optional* evidence-based tobacco and nutrition policies within their organizations. These policies build on the current federal commitment to reduce exposure to secondhand smoke, which includes The Pro-Children Act, 20 U.S.C. 7181-7184 that prohibits smoking in certain facilities that receive federal funds.

Tobacco:

- Tobacco-free indoors – no use of any tobacco products (including smokeless tobacco) or electronic

- cigarettes in any indoor facilities under the control of the applicant.
- Tobacco-free indoors and in adjacent outdoor areas – no use of any tobacco products or electronic cigarettes in any indoor facilities, within 50 feet of doorways and air intake ducts, and in courtyards under the control of the applicant.
 - Tobacco-free campus – no use of any tobacco products or electronic cigarettes in any indoor facilities and anywhere on grounds or in outdoor space under the control of the applicant.

Nutrition:

- Healthy food service guidelines that at a minimum align with Health and Human Services and General Services Administration Health and Sustainability Guidelines for Federal Concessions and Vending Operations for cafeterias, snack bars, and vending machines in any facility under the control of the recipient organization and in accordance with contractual obligations for these services. The following are resources for healthy eating and tobacco free workplaces:

- <http://www.gsa.gov/graphics/pbs/>

[Guidelines for Federal Concessions and Vending Operations.pdf](#)

- <http://www.cdc.gov/nccdphp/dnpao/hwi/toolkits/tobacco/index.htm>

- <http://www.cdc.gov/chronicdisease/resources/guidelines/food-service-guidelines.htm>

Applicants should state whether they choose to participate in implementing these two optional policies. However, no applicants will be evaluated or scored on whether they choose to participate in implementing these optional policies.

4. Cooperative Agreement Terms and Conditions of Award

The following special terms of award are in addition to, and not in lieu of, otherwise applicable U.S. Office of Management and Budget (OMB) administrative guidelines, U.S. Department of Health and Human Services (DHHS) grant administration regulations at 45 CFR Parts 74 and 92 (Part 92 is applicable when State and local Governments are eligible to apply), and other HHS, PHS, and CDC grant administration policies.

The administrative and funding instrument used for this program will be the cooperative agreement, an "assistance" mechanism (rather than an "acquisition" mechanism), in which substantial CDC programmatic involvement with the awardees is anticipated during the performance of the activities. Under the cooperative agreement, the HHS/CDC purpose is to support and stimulate the recipients' activities by involvement in and otherwise working jointly with the award recipients in a partnership role; CDC Project Officers are not to assume direction, prime responsibility, or a dominant role in the activities. Consistent with this concept, the dominant role and prime responsibility resides with the awardees for the project as a whole, although specific tasks and activities may be shared among the awardees and HHS/CDC as defined below.

This FOA is for a cooperative agreement. Under the cooperative agreement, the Centers for Disease Control and Prevention's (CDC) purpose is to support the awardee's activities. CDC does not assume direction, prime responsibility, or a dominant role in the project activities. CDC will not be involved in the development, administration, or day-to-day management of any data collection developed by the grantees. CDC approval will not be required for any specific information collection procedures or content proposed by grantees. At the request from the grantee CDC will provide technical assistance regarding the development or administration of data collection. It is anticipated that CDC staff will only provide technical assistance and PRA will not be required. However, if the applicant requests significant CDC involvement with respect to data collection activities, such as assuming primary direction or co-ownership of data, PRA may apply. CDC personnel may serve as co-authors on publications and reports at the request of the grantee. CDC will also conduct post-award monitoring of project performance, including review of progress reports, holding conference calls, and making visits.

The PD(s)/PI(s) will have the primary responsibility to:

- Develop and validate a robust next generation sequencing methods for accurate and timely delivery of results consistent with the high throughput needs of state newborn screening programs.
- Ensure consistent high quality performance characteristics of the new method.
- Develop a strategy to create quality assurance materials.
- Develop and implement a strategy to conduct a retrospective evaluation of screened positive SCID samples to validate the method and evaluate mutations in genes that may cause SCID and other primary immunodeficiencies.
- Develop a partnership with medical specialists to assure appropriate impact on diagnosis and treatment.
- Develop and implement education and training opportunities for laboratory scientists, healthcare providers, newborn screening program officials, and primary care physicians about newborn screening tests for mutations in SCID genes.
- Disseminate key findings and recommendations resulting from the research through publications, conference presentations, or other methods.
- Attend monthly conference calls with CDC regarding the scientific and programmatic progress being made on the proposed activities.
- Awardees will retain custody of and have primary rights to the data and software developed under these awards, subject to Government rights of access consistent with current DHHS, PHS, and CDC policies.

CDC staff have substantial programmatic involvement that is above and beyond the normal stewardship role in awards, as described below:

- Conduct a monthly conference call with the PD/PI and senior staff to discuss the scientific and programmatic progress being made on the proposed activities.
- As requested, provide technical expertise regarding laboratory techniques and methods of analysis.
- Additionally, an agency program official or CIO program director will be responsible for the normal scientific and programmatic stewardship of the award and will be named in the award notice.

Areas of Joint Responsibility include:

- None; all responsibilities are divided between awardees and CDC staff as described above.

5. Reporting

Awardees will be required to submit the [Non-Competing Continuation Grant Progress Report \(PHS 2590\)](#) annually and financial statements as required in the HHS Grants Policy Statement.

A final progress report, invention statement, equipment inventory list and the expenditure data portion of the Federal Financial Report are required for closeout of an award, as described in the HHS Grants Policy Statement.

Although the financial plans of the HHS/CDC CIO(s) provide support for this program, awards pursuant to this funding opportunity depend upon the availability of funds, evidence of satisfactory progress by the recipient (as documented in required reports) and the determination that continued funding is in the best interest of the Federal government.

The Federal Funding Accountability and Transparency Act of 2006 (Transparency Act), includes a requirement for awardees of Federal grants to report information about first-tier subawards and executive compensation under Federal assistance awards issued in FY2011 or later.

Compliance with this law is primarily the responsibility of the Federal agency. However, two elements of the law require information to be collected and reported by recipients: **1) information on executive compensation when not already reported through the SAM Registration; and 2) similar information on all sub-awards/ subcontracts/ consortiums over \$25,000.** It is a requirement for awardees of Federal

grants to report information about first-tier subawards and executive compensation under Federal assistance awards issued in FY2011 or later. All awardees of applicable CDC grants and cooperative agreements are required to report to the Federal Subaward Reporting System (FSRS) available at www.fsr.gov on all subawards over \$25,000. See the HHS Grants Policy Statement (<http://www.hhs.gov/asfr/ogapa/aboutog/hhsgps107.pdf>) for additional information on this reporting requirement.

A. Submission of Reports

The Recipient Organization must provide HHS/CDC with an original, plus one hard copy of the following reports:

1. **Yearly Non-Competing Grant Progress Report**, (use form PHS 2590, posted on the HHS/CDC website, www.grants.gov and at <http://grants.nih.gov/grants/funding/2590/2590.htm>, **is due 90 to 120 days prior to the end of the current budget period.** The progress report will serve as the non-competing continuation application. Although the financial plans of the HHS/CDC CIO(s) provide support for this program, awards pursuant to this funding opportunity are contingent upon the availability of funds, evidence of satisfactory progress by the recipient (as documented in required reports) and the determination that continued funding is in the best interest of the Federal government.
2. **Annual Federal Financial Report (FFR)** SF 425 is required and must be submitted through eRA Commons **within 90 days after the end of the calendar quarter in which the budget period ends.**
3. **A final progress report**, invention statement, equipment/inventory report, and the final FFR are required **90 days after the end of the project period.**

B. Content of Reports

1. Yearly Non-Competing Grant Progress Report: The grantee's continuation application/progress report should include:

- Description of Progress during Annual Budget Period: Current Budget Period Progress reported on the PHS 2590 (<http://grants1.nih.gov/grants/funding/2590/2590.htm>) <http://grants.nih.gov/grants/funding/2590/2590.htm>: Detailed narrative report for the current budget period that directly addresses progress towards the Measures of Effectiveness included in the current budget period proposal.
- Research Aims: list each research aim/project
 - a) Research Aim/Project: purpose, status (met, ongoing, and unmet), challenges, successes, and lessons learned
 - b) Leadership/Partnership: list project collaborations and describe the role of external partners.
- Translation of Research (1 page maximum). When relevant to the goals of the research project, the PI should describe how the significant findings may be used to promote, enhance, or advance translation of the research into practice or may be used to inform public health policy. This section should be understandable to a variety of audiences, including policy makers, practitioners, public health programs, healthcare institutions, professional organizations, community groups, researchers, and other potential users. The PI should identify the research findings that were translated into public health policy or practice and how the findings have been or may be adopted in public health settings. Or, if they cannot be applied yet, this section should address which research findings may be translated, how these findings can guide future research or related activities, and recommendations for translation. If relevant, describe how the results of this project could be generalized to populations and communities outside of the study. *Questions to consider in preparing this section include:*
 - How will the scientific findings be translated into public health practice or inform public health

policy?

- How will the project improve or effect the translation of research findings into public health practice or inform policy?
 - How will the research findings help promote or accelerate the dissemination, implementation, or diffusion of improvements in public health programs or practices?
 - How will the findings advance or guide future research efforts or related activities?
- **Public Health Relevance and Impact (1 page maximum).** This section should address improvements in public health as measured by documented or anticipated outcomes from the project. The PI should consider how the findings of the project relate beyond the immediate study to improved practices, prevention or intervention techniques, inform policy, or use of technology in public health. *Questions to consider in preparing this section include:*
- How will this project lead to improvements in public health?
 - How will the findings, results, or recommendations been used to influence practices, procedures, methodologies, etc.?
 - How will the findings, results, or recommendations contributed to documented or projected reductions in morbidity, mortality, injury, disability, or disease?
- **Current Budget Period Financial Progress:** Status of obligation of current budget period funds and an estimate of unobligated funds projected provided on an estimated FFR.
- **New Budget Period Proposal:**
- Detailed operational plan for continuing activities in the upcoming budget period, including updated Measures of Effectiveness for evaluating progress during the upcoming budget period. Report listed by Research Aim/Project.
 - Project Timeline: Include planned milestones for the upcoming year (be specific and provide deadlines).
- **New Budget Period Budget:** Detailed line-item budget and budget justification for the new budget period. Use the CDC budget guideline format.
- **Publications/Presentations:** Include publications/presentations resulting from this CDC grant only during this budget period. If no publication or presentations have been made at this stage in the project, simply indicate "Not applicable: No publications or presentations have been made."
- **IRB Approval Certification:** Include all current IRB approvals to avoid a funding restriction on your award. If the research does not involve human subjects, then please state so. Please provide a copy of the most recent local IRB and CDC IRB, if applicable. If any approval is still pending at time of APR due date, indicate the status in your narrative.

2. Annual Federal Financial Reporting

The Annual Federal Financial Report (FFR) SF 425 is required and must be submitted through eRA Commons within 90 days after the end of the calendar quarter in which the budget period ends. The FFR should only include those funds authorized and disbursed during the timeframe covered by the report. The final FFR must indicate the exact balance of unobligated funds and may not reflect any unliquidated obligations. There must be no discrepancies between the final FFR expenditure data and the Payment Management System's (PMS) cash transaction data.

Failure to submit the required information in a timely manner may adversely affect the future funding of this project. If the information cannot be provided by the due date, you are required to submit a letter explaining the reason and date by which the Grants Officer will receive the information. **All CDC Financial Expenditure data due on/after October 1, 2012 must be submitted using the FFR via the eFSR/FFR**

system in the eRA Commons. All Federal Reporting in the Payment Management System is unchanged. All new submissions should be prepared and submitted as FFRs.

CDC's implementation of the FFR retains a financial reporting period that coincides with the budget period of a particular project. However, **the due date for annual FFRs will be 90 days after the end of the calendar quarter in which the budget period ends.** Note that this is a change in due dates of annual FFRs and may provide up to 60 additional days to report, depending upon when the budget period end date falls within a calendar quarter. For example, if the budget period ends 1/30/2012, the annual FFR is due 6/30/2012 (90 days after the end of the calendar quarter of 3/31/2012). Due dates of final reports will remain unchanged. The due date for final FFRs will continue to be 90 days after the project period end date.

Grantees must submit closeout reports in a timely manner. Unless the Grants Management Officer (GMO) of the awarding Institute or Center approves an extension, grantees must submit a final FFR, final progress report, and Final Invention Statement and Certification within 90 days of the end of grant period. Failure to submit timely and accurate final reports may affect future funding to the organization or awards under the direction of the same Project Director/Principal Investigator (PD/PI).

FFR (SF 425) instructions for CDC grantees are now available at [http:// grants.nih.gov/ grants/forms.htm](http://grants.nih.gov/grants/forms.htm). For further information, contact GrantsInfo@nih.gov. Additional resources concerning the eFSR/FFR system, including a User Guide and an on-line demonstration, can be found on the eRA Commons Support Page: <http://www.cdc.gov/grants/interestedinapplying/applicationresources.html>

FFR Submission: The submission of FFRs to CDC will require organizations to register with eRA Commons (Commons) ([https:// commons. era.nih.gov/ commons/](https://commons.era.nih.gov/commons/)). CDC recommends that this one time registration process be completed at least 2 weeks prior to the submittal date of a FFR submission.

Organizations may verify their current registration status by running the “List of Commons Registered Organizations” query found at: <http://era.nih.gov/commons/>. Organizations not yet registered can go to [https:// commons. era.nih.gov/ commons/ registration/ registration Instructions. jsp](https://commons.era.nih.gov/commons/registration/registrationInstructions.jsp) for instructions. It generally takes several days to complete this registration process. This registration is independent of Grants.gov and may be done at any time.

The individual designated as the PI on the application must also be registered in the Commons. The PI must hold a PI account and be affiliated with the applicant organization. This registration must be done by an organizational official or their delegate who is already registered in the Commons. To register PIs in the Commons, refer to the eRA Commons User Guide found at: [http:// era.nih.gov/ commons /index.cfm](http://era.nih.gov/commons/index.cfm).

3. Final Reports: Final reports should provide sufficient detail for CDC to determine if the stated outcomes for the funded research have been achieved and if the research findings resulted in public health impact based on the investment. The grantee’s final report should include:

- **Research Aim/Project Overview:** The PI should describe the purpose and approach to the project, including the outcomes, methodology and related analyses. Include a discussion of the challenges, successes and lessons learned. Describe the collaborations/partnerships and the role of each external partner.
- **Translation of Research Findings:** The PI should describe how the findings will be translated and how they will be used to inform policy or promote, enhance or advance the impact on public health practice. This section should be understandable to a variety of audiences, including policy makers, practitioners, public health programs, healthcare institutions, professional organizations, community groups, researchers and other potential end users. The PI should also provide a discussion of any research findings that informed policy or practice during the course of the project period. If applicable, describe how the findings could be generalized and scaled to populations and communities outside of the funded project.
- **Public Health Relevance and Impact:** This section should address improvements in public health as measured by documented or anticipated outcomes from the project. The PI should consider how the

findings of the project related beyond the immediate study to improved practices, prevention or intervention techniques, or informed policy, technology or systems improvements in public health.

- Publications; Presentations; Media Coverage: Include information regarding all publications, presentations or media coverage resulting from this CDC funded activity. Please include any additional dissemination efforts that did or will result from the project.

Section VII. Agency Contacts

We encourage inquiries concerning this funding opportunity and welcome the opportunity to answer questions from potential applicants.

Application Submission Contacts

[Grants.gov Customer Support](#) (Questions regarding Grants.gov registration and submission, downloading or navigating forms)

Contact Center Phone: 800-518-4726

Email: support@grants.gov

Hours: 24 hours a day, 7 days a week; closed on Federal holidays

[eRA Commons Help Desk](#) (Questions regarding eRA Commons registration, tracking application status, post submission issues, FFR submission)

Phone: 301-402-7469 or 866-504-9552 (Toll Free)

TTY: 301-451-5939

Email: commons@od.nih.gov

Hours: Monday - Friday, 7am - 8pm U.S. Eastern Time

CDC Technical Information Management Section (TIMS)

Procurement and Grants Office

Telephone 770-488-2700

Email: PGOTIM@cdc.gov

Hours: Monday - Friday, 7am – 4:30pm U.S. Eastern Standard Time

Scientific/Research Contact(s)

Susan Neurath

Extramural Research Program Office

National Center for Injury Prevention and Control

Centers for Disease Control and Prevention (CDC)

Telephone: 770-488-3368

Email: SFN8@cdc.gov

Peer Review Contact(s)

Jane Suen, DrPH

Scientific Review Officer

National Center for Injury Prevention and Control

Centers for Disease Control and Prevention (CDC)

Telephone: 770-488-4281

FAX: 770-488-4422

Email: JXS8@cdc.gov

Financial/Grants Management Contact(s)

Tiffany Mannings, Grants Management Specialist

Procurement and Grants Office

Centers for Disease Control and Prevention (CDC)

2920 Brandywine Road, Mail Stop E-15

Atlanta, GA 30341

Telephone: 770-488-2515

Email: YUO7@CDC.GOV

Section VIII. Other Information

Other CDC funding opportunity announcements can be found at www.grants.gov.

All awards are subject to the terms and conditions, cost principles, and other considerations described in the HHS Grants Policy Statement.

Authority and Regulations

Awards are made under the authorization of Sections of the Public Health Service Act as amended and under the Code Federal Regulations.

Awards are made under the authorization of Sections of the Public Health Service Act as amended and under the Code Federal Regulations. Awards are made under the authorization of Section 301 of the Public Health Service Act [42 U.S.C. Section 241], as amended.

Successful grantees will be permitted expanded authorities in the administration of this award as provided for in the Code of Federal Regulations, Title 2, Subtitle A, Chapter II, Part 200, Subpart D, §200.308(d)(4).

Amendment 1
Questions and Answers from the EH15-002 Pre-Application Conference Call
February 25, 2015

Please note that the information below does not represent an actual transcript of the conversation. The information has been edited for both accuracy and clarity.

1. Are foreign institutions eligible to apply?

a. No. For this funding opportunity announcement, foreign organizations and foreign components of US organizations are not eligible to apply (see page 9 of the FOA).

2. Will a second Pre-Application Conference Call be held to discuss this announcement?

a. No. CDC will not be hosting a second call. However, applicants may contact Susan Neurath, the Scientific/Research Contact listed in the FOA (page 28), if they have any questions about the FOA. She may be contacted by phone (770 488 3368) or email (SFN8@cdc.gov).