America's DataHub Consortium Request for Solutions

Evaluation of Noise Infusion for the Survey of Doctorate Recipients (SDRN)

Dr. Heather Madray NCSES, Program Director for Data Access, Confidentiality, and Quality Assessment (DACQA)







Housekeeping Items:

- All Attendees are on mute and will not be able to unmute themselves.
- Please use the "chat" function for technical difficulties only
- Place all Questions in the Q&A Box
- Please check your Audio Settings if you are having difficulties hearing us

Check Audio Settings	Click Chat to or to ask	Use Q&A for direct questions	

Background







Placed within NSF's SBE Directorate, NCSES is one of 13 principal federal statistical agencies







NCSES's mission is to serve as a federal clearinghouse for objective data that provide key insights into the S&E enterprise



Science & Engineering Workforce

Research & Development



STEM Education



Government Funding for S&E



Innovation & Global Competitiveness





The idea of a transformational NSDS to coordinate data linking, secure access, and support innovation everywhere has a distinguished lineage





America's DataHub provides experiences to inform the development of the NSDS Demonstration (NSDS-D) Project





Scope of the NSDS-D

e	To pilot potential shared services, technologies, and techniques that might be utilized within a potential
ie -	NSDS.

Focus is on novel research collaborations, data linkage methodologies, and privacy preserving technologies and techniques.

Exploring innovation is key to the NSDS-D.

The NSDS-D is **NOT** a data warehouse.

Data will not be collected and housed under the demonstration project.



Evaluation of Noise Infusion for the Survey of Doctorate Recipients (SDRN)



Project Objective

To evaluate the use of noise infusion for a demographic survey as a possible privacy-preserving method in the use of federally confidential data.

Investigations will focus on use cases where noise infusion may be appropriate and use cases where noise infusion may introduce quality issues that reduce confidence in the use of estimates for decision-making.



Background

As demand for access to confidential federal data assets increases alongside novel analytical approaches, privacy protections must be in place to ensure the protection of the privacy and confidentiality of the data.

Noise infusion can be a powerful disclosure limitation methodology to protect the identity of respondents.

Use of noise presents concerns surrounding data quality.

Balancing these two competing needs is critical in ensuring that high-quality data is available for decision-making while protecting the privacy and confidentiality of respondents.



Survey of Doctorate Recipients (SDR)

•The Survey of Doctorate Recipients (SDR) is a sample survey that provides data on the characteristics of science, engineering, and health doctorate degree holders.

•The SDR provides data useful in assessing the supply and characteristics of U.S.-trained science, engineering, and health doctorates employed in educational institutions, private industry, professional organizations, and government in the U.S., as well as in other countries worldwide.

•To address disclosure concerns with the SDR while maximizing data utility, noise infusion is being explored as an alternative to augment other disclosure limitation methodologies currently in use with the SDR, both for the restricted-use data and the public-use microdata file.



SDR Continued

- The SDR biennial data collection allows for both cross-sectional and longitudinal analysis of the U.S.trained doctorate population.
- The cross-sectional data is a unique source of information about the educational and occupational achievements of U.S.-trained doctoral scientists and engineers in the United States and abroad.
- This project will focus on the cross-sectional restricted data and public-use file.



SDR Noise Infusion

This project will explore the following:

- Multiple methodologies for noise infusion for both the restricted-use SDR data and the SDR Public-Use File (PUF), comparing the different methods with regards to data protection, resource needs, and ease of use, as well as resulting data quality and utility of estimates produced from the data. Impact on data quality and potential uses cases for noise infusion with the SDR, with a particular focus on the use of the estimates for evidence-based decision-making.
- 2. Assembling a Technical Expert Panel of 5-7 subject matter experts to evaluate the quality and fitness for use of the noise-infused data. This panel will include NCSES subject matter experts, as well as disclosure experts outside of NCSES. The offeror will organize and implement this review plan and produce a final report summarizing the panel feedback.
- 3. A strategy for messaging to data users the availability of noise-infused data if NCSES chooses to make the noise-infused dataset available within the restricted-data licensing program. This messaging will provide clarity on quality issues, use cases, and the utility of the noise-infused data for decision-making. In addition, this messaging should explain and emphasize the role of noise-infused data in the SDR's tiered access model by ensuring that public-use microdata can continue to be made available to researchers.



Information Gaps

This project will identify key components necessary to inform a future/potential NSDS including:

- Potential uses of noise infusion for a sample survey.
- Potential uses of noise infusion for cross-sectional microdata.
- Different methodologies for infusing noise and an evaluation of each.
- How to message noise infusion and the potential uses of estimates to researchers.



Considerations and Deliverables

Key Evidence Building Considerations

- Key focus questions (address one or more) to assess innovation in the following areas: data security, privacy, and engagement:
 - Which novel techniques for data, privacy, and confidentiality protections can be used?
 - Are the resulting data and models fit to inform policy discussions and to make data available more equitability?
 - What types of collaboration and stakeholder engagement are needed to help inform these questions, data, and analysis?
 - What mechanisms are needed to access the resulting data that uphold privacy requirements?

Deliverables

- At a minimum, offerors will provide the following if selected for an award. Additional deliverables may be required.
 - Monthly report to document progress.
 - Report detailing the results of the technical expert panel.
 - All code, clearly documented; documentation of noise infusion methodology; documentation of data quality assessment; and any other data/documentation created under this award.



Questions?







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Request for Solutions (RFS) Requirements

Ms. Rebecca Harmon Senior Contracts Manager Advanced Technology International (ATI), ADC Consortium Management Firm (CMF)

americasdatahub.org/opportunities

The official source of information regarding the solicitations is included in the Request for Solutions posted on the ADC website. If you act on information from other sources, it is at your risk.







RFS Summary

Project Topics

- Each proposals must address the specific topic area.
- See Attachment 1 of the RFS for full topic description.

Anticipated Funding

• **SDRN:** One award anticipated, estimated at \$800,000.

Period of Performance

• **SDRN:** Limited to twenty four (24) months



One Step Process

- Offerors will submit a detailed technical and cost proposal for award evaluation.
- You do not need to be an ADC member to respond. However, if you're selected for award, you must join ADC (if not already a member).



Full Proposal Submission

- RFS Attachment 2 includes format
 - Volume 1: Technical Proposal
 - Limited to **8 pages plus cover page.**
 - Volume 2: Cost Proposal
 - No page limit.
 - Submit in Word format.
 - Submission form:
 - SDRN: https://atisc.formstack.com/forms/adc_sdrn_rfs



Full Proposal Cover Page

- Working title of the proposed project.
- Names, phone numbers, mailing, and e-mail addresses for the principal technical and contractual points of contact (person or persons authorized to negotiate on the behalf of the offeror and who can contractually obligate the offeror organization).
- Unique Entity ID (formally DUNS number) of the submitting organization (if available).
- Project partners, if any.
- Date of submission.
- Proprietary data restrictions, if any.



Volume 1: Technical Proposal Content

Executive Summary

- Summary Statement: Provide a succinct statement of the aim of the project and proposed approach. In most cases, the summary statement will be no longer than a paragraph.
- **Context:** Briefly describe the current state of information and/or research in the area.
- Proposed Approach: Describe the proposed approach. Offerors shall explain how the proposed approach will meet the objectives outlined in Attachment 1; result in or lead to a replicable framework that can be used to address similar issues; and inform other strategic priorities like the National Secure Data Service.



Statement of Work

- Work Scope: Describe the work to be accomplished as part of the project, organized as it is expected to be performed. Separate the work effort into major tasks and subtasks as numbered paragraphs or in a table.
- **Deliverables:** All project deliverables should be clearly listed and described.
- Future Phases: Proposals may include a discussion of optional, future phases of work. The original phase or work shall in no way depend on work described under future phases to meet the program criteria.
- There shall be no company-sensitive or proprietary data included in the Statement of Work.



• Capabilities and Experience

- List all team members proposed for the project and indicate if they are a non-traditional entity as defined in the RFS.
- List all key personnel, including those from outside the offeror's organization. Organize the team by organization name and briefly describe each person's roles and responsibilities on the project.
- Identify and describe the capabilities and experience of key personnel and organizations as these elements relate to the proposed project.
- Descriptions of experience should serve to demonstrate the key personnel's ability to successfully conduct the proposed research or project, including access to critical resources for the project.
- Designate any supervisory relationships and who will be the main point of contact for regular check-ins with the NCSES methodological team during the project.
- Provide condensed resumes (2-page maximum) for all key personnel on the project.



Capabilities and Experience

- In additional to key personnel, designate any graduate students or postdoctoral fellows funded by the proposed research. If named, provide no more than a half-page biographical sketch of their background and research interests. The biographical sketch should be included as part of the resume appendix and does not count against the page limit.
- Describe any unique capabilities that the offeror team possesses that may reduce project risk, reduce project duration, and/or improve project financial performance.
- Address any potential conflicts of interest and any proposed mitigation. In addition, complete and submit Exhibit 1 – Organizational Conflicts of Interest Certificate.



Intellectual Property Rights

- Describe any limitations on any intellectual property (patents, inventions, trade secrets, copyrights, or trademarks) that will impact the Offeror's performance of the contract or impact the Government's subsequent use of any deliverable under the contract.
- The Offeror must describe the intellectual property in sufficient detail to describe the limitations (data assertions of the Offeror or any subcontractor, potential patent licenses required by the Government, etc.), and to describe why or how the Government can accomplish the stated objectives of this RFS with the limitations described or proposed by the Offeror.



Volume 2: Cost Proposal Content

• The Cost Proposal shall contain the following information:

- Agreement Type: It is anticipated the proposed efforts will be funded as firm-fixed-price. However, offerors
 may recommend an alternate approach (e.g., cost, cost-plus-fixed-fee, etc.) and include the rationale for
 their use. State either firm-fixed-price or provide rational for an alternative approach.
- **Cost Estimate:** The cost estimate shall be broken down for each year of the proposed work. The elements of cost and suggested level of detail are listed in the RFS. Contractor format for the cost estimate is acceptable.



Volume 2: Cost Proposal Content (Continued)

• Program Funds

- Labor Offeror only: Provide a description of each labor category or person with associated labor rate and hours.
- Travel Offeror only: Provide a list of the number of trips, number of days and travelers per trip, cost per trip, and the purpose of each trip.
- Team Members/Subcontractors/Consultants: Provide a list of each team member/subcontractor/consultant and their associated subcontract funding.
- Material/Equipment Offeror only: Provide a list all items and provide justification and basis of cost for each (i.e., catalog pricing, vendor quote, previous purchase, etc.).
- Other Direct Costs Offeror Only: Provide a list all items and provide justification and basis of cost for each (i.e., catalog pricing, vendor quote, previous purchase, etc.).
- Indirect Costs Offeror Only: Provide a breakout of all indirect costs and indicate whether rates are Government approved, citing approval date and federal agency providing approval. If rates are not approved, provide an explanation on how your organization's proposed rates are appropriate for pricing.
- Profit/Fee: Indicate any profit/fee.



Vol 2: Cost Proposal Content (Continued)

- Cost Share (not required)
 - Cash (labor, travel, etc.): As applicable, provide a description of each labor category, details on travel, list of materials, etc.
 - In Kind (use of equipment, space/ buildings, intellectual property): Must provide basis of cost.



Full Proposal Submission Form

Offeror Information

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Offeror Organization*

Offeror Address

Offeror City

Offeror State

Offeror Zip Code



Full Proposal Submission Form (Continued)

Are you currently a "Non-traditional Entity"?*



No

"Non-traditional entity" means an entity (construed in its broadest sense to include qualified large and small businesses, universities, non-profits, philanthropic organizations, partnerships, joint ventures, and other entity forms) that is not currently performing and has not performed, for at least the three-year period preceding the solicitation of sources by NSF for the procurement or arrangement, under any NSF procurement contract or NSF instrument of financial assistance.



Full Proposal Submission Form (Continued)

POC Information

Technical	POC	Name *

Į.		
First Name	Last Name	

Job Title *

Technical POC Email*

Technical POC Phone*

Is the Contracts POC the same as the Technical POC?



Full Proposal Submission Form (Continued)

Submission

Proposal Title*

Proposal Submittal

O I prefer to upload the proposal to this form (attachments will be unencrypted)

I prefer to send the proposal via encrypted email to adc-contracts@ati.org (may be done before or after submitting this form)

Volume I: Technical Proposal Upload



Volume II: Cost Proposal Upload



File names must not contain spaces or special characters

Additional Comments



Full Proposal Evaluation Criteria

Technical

- Approach the degree to which the proposed project:
 - (i) meets the objectives outlined in (RFS) Attachment 1;
 - (ii) will result in or lead to a replicable framework that can be used to address similar issues
 - (iii) demonstrates innovativeness; and
 - o (iv) informs other strategic priorities like the National Secure Data Service.
- Teaming The degree to which the proposed project includes a diverse team of qualified performers to include use of non-traditional entities. (See RFS for nontraditional definition)

• Cost

- The CMF will perform an analysis and will provide the results to the Government. This
 effort may entail the CMF requesting additional information from the Offeror.
- The Government will determine whether the Offeror's total evaluated cost/price is fair and reasonable.

The criteria are listed in order of relative importance.



Base Agreement



If selected for award, the Base Agreement must be signed at that time.



Any Project Agreements will be awarded under the Base Agreement.



Timeline

	Date (Estimate)
Request for Solutions Release	June 26
Webinar	June 28
Proposal Deadline	July 17, 3 PM ET
Offeror Notifications	Late July
Award Projects	August

Any deadline updates will be communicated via email.



ADC Member Teaming Resources

- ADC Member Profile Database*
 - Searchable by member demographics and capabilities, includes POC info for each member.
- Member Forum*
 - Post on the Forum if you are interested in teaming or starting a discussion with other members.
- Need a teaming partner outside of ADC or other resources?
 - Email ati@govmates.com with who you are looking for.
 - More information is available at <u>govmates.com/ati</u>.

*Requires access to Members Only website. Request access here.

Not a member, but want to access these resources? Join today — it's free!



Communications

RFS Questions: <u>ADC-Contracts@ati.org</u>



General/Membership Questions: adc@ati.org



Visit the ADC Website

Stay in the loop with ADC events, solicitations, project awards, news, members, and more!

www.americasdatahub.org





Questions?







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