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DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of Inspector General

Announcement of Requirements and Registration for "The Simple Extensible Sampling Tool Challenge"

AGENCY: Office of Inspector General (OIG), HHS.

ACTION: Notice.

SUMMARY: The Simple Extensible Sampling Tool Challenge (Challenge) is an HHS/OIG Challenge under the "America COMPETES" (Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science) Reauthorization Act of 2010 (Pub. L. 111-358). The objective of this Challenge is to construct a sampling tool to replace the current version of RAT-STATS software.

DATES: Important dates regarding the Challenge include the following:

The Challenge begins September 28, 2016.

Submission period: September 28, 2016, to May 15, 2017, 5:00 p.m. EST.

Judging period: September 28, 2016, to June 15, 2017.

OIG announces a winner: Rolling basis, no later than July 1, 2017.

FOR FURTHER INFORMATION CONTACT: Jared Smith, 202-205-9119 or Jared.Smith@oig.hhs.gov.

AWARD APPROVING OFFICIAL: Daniel R. Levinson

SUPPLEMENTARY INFORMATION:

I. Background

RAT-STATS is a basic sampling tool that was originally designed by OIG to give nonexperts a robust method for selecting statistically valid samples in the health care oversight environment. RAT-STATS is used by both Government agencies and private health care providers and has been involved in billions of dollars in audit-related recoveries.

The objective of the current Challenge is to develop the foundation for an upgraded version of RAT-STATS. The current version of RAT-STATS is well validated; however, its user interface can be difficult to navigate, and the underlying code makes the software costly to update. OIG needs a new, modern version of the software that is easy to use and can be extended in a cost-effective manner.

Submissions will be reviewed in the order they are received by OIG. After the first five finalists are identified, no further submissions will be reviewed. This exclusion applies even to submissions received prior to when the fifth finalist is identified and submissions received before May 15, 2017, 5:00 p.m. EST. In addition, even if five finalists are not identified, entries received after May 15, 2017, 5:00 p.m. EST, will not be considered. The number of submissions under review, the number of finalists identified, and the names of the finalists will all be posted at the public website <https://www.challenge.gov/challenge/Statistical-Software-for-Healthcare-Oversight/>. This information will be updated on a weekly basis.

Upon being notified that an entry has been reviewed and does not meet the criteria for becoming a finalist, a participant has 7 business days to request an explanation for the rejection. Explanation requests must be sent via email to Jared.Smith@oig.hhs.gov. An explanation will be provided within 10 business days from when the request is received. At any time prior to May 15, 2017, or the identification of the five finalists by OIG - whichever occurs first - a team (one or more members) may resubmit its entry. Upon receipt of an updated submission, the previous submission will be excluded in its entirety from the competition, and the submission date for the team will be defined as the time when the new submission is received.

Other than as described in the previous paragraph, OIG is not required to provide feedback to challenge participants with respect to any information submitted. By submitting an entry, individuals and teams grant OIG the right to use all or part of its Challenge entry (i.e., algorithm and software) as submitted or in order to create a future software package. Any version of the software produced by OIG will be freely available to the public.

OIG will amend this Federal Register notice if the timeline or the rules for the Challenge are modified. In addition, OIG will notify registered Challenge participants by email of any amendments and will include the modified Challenge showing the changes.

Addresses: Notifications of any amendment to this Federal Register notice and answers to frequently asked questions about

it will be posted at

<https://www.challenge.gov/challenge/Statistical-Software-for-Healthcare-Oversight/>.

II. Subject of Challenge

Each year HHS handles hundreds of millions of Medicare and Medicaid claims valued at more than a trillion dollars. Due to the high volume of claims, statistical sampling provides a critical tool to ensure effective oversight of these expenditures. Sampling is used by the providers in their own efforts to monitor their performance and by the various organizations within HHS. There are a wide range of different software tools for performing statistical analysis. RAT-STATS has a unique niche in that it provides a straightforward tool for individuals who need a simple but robust method for selecting and analyzing statistical samples. The RAT-STATS software was originally created in 1978 and has gone through several upgrades since that time. Unlike a full statistical package that attempts to answer all types of questions for a wide range of users, RAT-STATS serves as a streamlined solution to handle the specific task of developing valid statistical samples and estimates within the health care oversight setting.

For example, an OIG investigator may pull a simple random sample in order to estimate damages for a provider suspected of fraud. RAT-STATS generates valid pseudo-random numbers and outputs all of the information needed to replicate the sample. Once the investigator finishes reviewing the sample, he or she can then enter the results into RAT-STATS to get the final statistical estimate. While the investigator may need some basic training in statistics, he or she would not need the same level of

expertise as would be required to navigate the many options available in a full-service statistical or data analysis package.

The objective of the current Challenge is to develop the foundation for an upgraded version of RAT-STATS. The current version of RAT-STATS is well validated; however, its user interface can be difficult to navigate and the underlying code makes the software costly to update. OIG needs a new, modern version of the software that is easy to use and can be extended in a cost-effective manner. In addition, the new version of the software must be 508 compliant.

The current version of the RAT-STATS software can be found at the following web address:

<http://www.oig.hhs.gov/compliance/rat-stats/index.asp>.

In order to complete the Challenge participants must create a software package that replicates the operation of four of the functions of the original RAT-STATS software: (1) Single Stage Random Numbers; (2) Unrestricted Attribute Appraisal; (3) Unrestricted Variable Appraisal; and (4) Stratified Variable Appraisal. In addition, submissions must meet all of the rules and requirements outlined in this Notice.

The detailed technical specifications behind the 4 RAT-STATS functions along with 10 test datasets will be provided in their entirety at the start of the competition at <https://oig.hhs.gov/compliance/rat-stats/prize/>. The Challenge does not require the derivation of any new statistical methods.

III. Rules for Participating in the Challenge

Teams of one or more members can participate in this Challenge. There is no maximum team size. Each team must have a captain, and each individual may only be part of a single team. Individual team members and team captains must register in accordance with the Registration Process section below. The role of the team captain is to serve as the corresponding participant with OIG about the Challenge and to submit the team's Challenge entry. While OIG will notify all registered Challenge participants by email of any amendments to the Challenge, the team captain is expected to keep the team members informed about matters germane to the Challenge.

- (1) To be eligible to win the Challenge prize, each participant (individual or entity) must –
 - a. register to participate in the Challenge under the rules promulgated by OIG as published in this Notice;
 - b. have complied with all the requirements under this section;
 - c. in the case of a private entity, be incorporated in and maintain a primary place of business in the United States or, in the case of an individual, be a citizen or permanent resident of the United States;
 - d. not be a Federal entity or Federal employee acting within the scope of their employment;
 - e. not be an employee of OIG, a judge of the Challenge, or any other party involved with the design, production, execution, or distribution of the Challenge or the immediate family of such a party (i.e., spouse, parent, step-parent, child, or stepchild); and
 - f. be at least 18 years old at the time of submission.

(2) Federal contractors may not use Federal funds from a contract to develop their Challenge submissions or to fund efforts in support of their Challenge submission.

(3) Federal grantees may not use Federal funds to develop COMPETES Act Challenge applications unless consistent with the purpose of their grant award.

(4) An individual or entity shall not be deemed ineligible because the individual or entity used Federal facilities or consulted with Federal employees during a competition if the facilities and employees are made available to all individuals and entities participating in the competition on an equitable basis.

(5) By participating in this Challenge, each individual (whether competing singly or in a group) and entity agrees to assume any and all risks and waive claims against the Federal Government and its related entities (as defined in the COMPETES Act), except in the case of willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits, whether direct, indirect, or consequential, arising from participation in this Challenge, whether the injury, death, damage, or loss arises through negligence or otherwise.

(6) No individual (whether competing singly or in a group) or entity participating in the Challenge is required to obtain liability insurance or demonstrate financial responsibility in order to participate in this Challenge.

(7) By participating in this competition, each individual and entity agrees to assume any and all risks and waive claims

against the Federal Government and its related entities, except in the case of willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits, whether direct, indirect, or consequential, arising from my participation in this prize contest, whether the injury, death, damage, or loss arises through negligence or otherwise.

(8) By participating in this Challenge, each individual (whether participating singly or in a group) and entity grants to OIG, in any existing or inchoate copyright or patent rights owned by the individual or entity, an irrevocable, paid-up, royalty-free, nonexclusive worldwide license to use, reproduce, post, link to, share, and display publicly on the Web the submission, except for source code. This license includes without limitation posting or linking to the submission, except for source code, on OIG's public facing website

(<http://www.oig.hhs.gov/compliance/rat-stats/index.asp>). In developing its future software systems, OIG may include algorithms and software from Challenge entries and may consult with individuals or teams that submitted entries. Thus, the license also permits OIG to develop a future software system, independently or with others, using any algorithms or software from Challenge entries, including those obtained from other Challenges or solicitations, and OIG may freely use, reproduce, modify, and distribute the resulting future software system without restriction. Each participant will retain all other intellectual property rights in their submissions, as applicable.

(9) OIG reserves the right, at its sole discretion, to (a) cancel, suspend, or modify the Challenge through amendment to this Federal Register notice, and/or (b) not award any prizes if

no entries meet the stated requirements. In addition, OIG reserves the right to disqualify any Challenge participants or entries in instances where cheating or other misconduct is identified.

(10) Each individual (whether participating singly or in a group) or entity agrees to follow all applicable Federal, State, and local laws, regulations, and policies.

(11) Each individual (whether participating singly or in a group) and entity participating in this Challenge must comply with all terms and conditions of these rules, and participation in this Challenge constitutes each such participant's full and unconditional agreement to abide by these rules. Winning is contingent upon fulfilling all requirements herein.

(12) Each individual (whether participating singly or in a group) and entity grants to OIG and its contractors assisting OIG with this Challenge the right to review the submission, study the algorithms and the code, and run the software on other sets of images.

(13) Submissions must not infringe upon any copyright, patent, trade secrets, or any other rights of any third party. Each individual (whether participating singly or in a group) or entity warrants that she or the team is the sole author and owner of any copyrightable work that the submission comprises, that the submission is wholly original with the participant or is an improved version of an existing work that the participant has sufficient rights to use and improve. In addition, the submission must not trigger any reporting or royalty obligation

to any third party. A submission must not include proprietary, classified, confidential, or sensitive information.

(14) The licenses for any code used as part of a submission must be compatible with each other and must allow OIG to distribute and modify the software both within and outside the agency without incurring any reporting or royalty obligations to any third party.

(15) The submission must not contain malicious code such as viruses, timebombs, cancelbots, worms, trojan horses, or other potentially harmful programs or other material or information.

(16) The submission must be unique and must not represent a modification of a previous submission from another team.

(17) Submitted software must be fully functional and operate correctly on Microsoft Windows systems configured in accordance with the applicable United States Government Configuration Baseline (USGCB) and applicable configurations (<https://usgcb.nist.gov/>). The group policy settings associated with this configuration are also available on the NIST website (https://usgcb.nist.gov/usgcb/microsoft_content.html).

(18) Submitted software must be a stand-alone product that is designed for end users to run in the standard user context without requiring elevated administrative privileges.

(19) Submitted software must not require or make use of any network capabilities.

(20) Submitted software must be section 508 compliant. For example, it must be possible to run all functions using a keyboard, the software must include a well-defined indicator of current program focus, any results provided in image format must also be available in text, and color coding shall not be used as the only means of conveying information. For more details refer to section 36 CFR § 1194.21.

IV. Registration Process

Beginning on September 28, 2016, visit <https://www.challenge.gov/challenge/Statistical-Software-for-Healthcare-Oversight/> and follow the instructions provided.

V. Submission Requirements

Submissions must be entered electronically using the challenge.gov website <https://www.challenge.gov/challenge/Statistical-Software-for-Healthcare-Oversight/> and must contain each of the following elements.

(1) Executable software that replicates the four target RAT-STATS functions: Single Stage Random Numbers, Unrestricted Attribute Appraisal, Unrestricted Variable Appraisal, and the Stratified Variable Appraisal.

(2) Source code for the executable that is both human- and machine-readable. The source code can be written in any programming language(s) as long as the requirements of this notice are met. The source code must be commented sufficiently so that another user can understand the underlying operation of the code.

(3) A text file written in English documenting and explaining any noncosmetic differences between the submission and the original RAT-STATS software.

(4) A text file written in English summarizing the changes required to add additional RAT-STATS functions to the submission.

(5) A text file written in English documenting all software licenses associated with the source code used as part of the project. The text file must describe the nature of each individual license and their overall compatibility.

(6) A one-page text file written in English that contains the following:

- a. Names and email addresses of the team captain and all team members
- b. A five or more character identifier for the entry that is used as a prefix in the names of all of the team's submitted files
- c. A brief description of the submission

VI. Prize Award Details

The first five submissions that meet all of the requirements outlined in this Notice will receive \$3,000. In addition, if a submission is selected to serve as the foundation for the new version of RAT-STATS, then that submission will receive an additional \$25,000. The names of the winners will be posted on OIG websites. In addition, all winners will be notified via email at the email addresses provided in their prize submissions.

Prizes awarded under this Challenge will be paid by electronic funds transfer and may be subject to Federal income taxes. OIG will comply with U.S. Internal Revenue Service withholding and reporting requirements, where applicable.

To select a winner, OIG will first review submissions in the order in which they are received to determine their suitability for judging and eligibility to win the prize. An eligible submission must comply with all rules and requirements outlined in this Federal Register notice.

Submissions that meet the initial eligibility requirements will proceed to the next phase in the judging process, which will assess the submissions based on their ability to replicate RAT-STATS output for 60 test datasets. The 60 test cases will be the same for all submissions. Ten of these test cases will be made available to the public at the start of the Challenge at <https://oig.hhs.gov/compliance/rat-stats/prize/>. The submissions will also be reviewed during this phase to ensure that the steps required to add additional modules are reasonable and fully documented.

The first five eligible submissions that comply with the rules of this Notice, follow the detailed submission instructions, are complete, and are able to fully replicate RAT-STATS on the 60 target cases will each be declared a finalist. Once five finalists have been identified, no further applications will be reviewed even if they are submitted prior to the May 15, 2017, 5:00 p.m. EST deadline. Moreover, the contest will end on May 15, 2017, at 5:00 p.m. EST even if fewer than five finalists have been selected.

The replacement for RAT-STATS will be voted on by 12 HHS/OIG Office of Audit Services (OAS) statistical specialists. The

finalist with the greatest number of votes will be selected as the replacement for RAT-STATS and will receive the overall prize. Each statistical specialist will be given a 2-week period to review the submissions and to vote on the submission that he or she would prefer to use in the future. The instructions for the voting will be as follows: "Please review the operation of the following software packages and select one that you would prefer to use in the future for selecting and analyzing your statistical samples." In the case of a tie, the OAS lead statistician will serve as the tie-breaking vote.

DATED: September 20, 2016

Daniel R. Levinson

Inspector General

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