

**TECHNICAL SERVICES FOR THE NCI APPLIED RESEARCH PROGRAM  
RFP #N02PC35008-57**

**STATEMENT OF WORK**

**NOTE: OFFERORS MUST PROPOSE ON AT LEAST ONE TASK AREA IN THE STATEMENT OF WORK.  
A SEPARATE PROPOSAL MUST BE SUBMITTED FOR EACH TASK AREA.**

**Scope**

This contract is designed to assist the Applied Research Program (ARP), in the Division of Cancer Control and Population Sciences (DCCPS) within the National Cancer Institute (NCI) in accomplishing its mission. ARP has needs for developmental and technical services in a broad range of content areas, including cancer-associated health behaviors, health services, and outcomes from cancer treatment. Within each of these content areas, common needs are for study management, questionnaire development, and database development and management.

Independently and not as an agent of the Government, the Contractor shall furnish all the necessary services, qualified personnel, material, equipment, and facilities, not otherwise provided by the Government as needed to perform the Statement of Work below.

The Contractor shall perform work in these Task Areas as outlined in each Task Order:

**Task Area 1: Study Design and Implementation**

**A. Development and Management of Small Pilot Studies and Assistance with Preparing Study Materials**

As specified in each Task Order, the Contractor shall:

1. Assist in the design and implementation of pilot projects for the ARP. The pilot projects include, but are not limited to, testing of surveys, methods and other studies.
2. Obtain necessary information to determine effective study resources.
3. Determine the parties whose cooperation or approvals are necessary for implementation of the relevant study (e.g., Federal, state or local government agencies, local institutions such as hospitals, clinics, physicians, community organizations).
4. Assist in developing protocols and completing forms as defined by the Contracting Officer's Representative (COR) for various clearances and committees for the ARP, such as submissions to the Office of Management and

Budget (OMB) or Institutional Review Boards (IRBs). Be available to attend such committee meetings, as defined by the COR.

5. Prepare, pre-test, evaluate and produce study materials. Materials may include, but are not limited to, questionnaires; data collection forms for abstracting, coding, follow-up, tracking, physical measurements, and exposure assessments; and, training and procedure manuals.
6. Train personnel relevant to pilot study research, including, but not limited to: abstractors, interviewers, telephone screeners, coders.
7. Abstract, create electronic files of, and/or photocopy records (e.g., clinical or office medical records, hospital charts, vital records, job records, etc.). Maintain quality assurance and quality control (QA/QC) over the abstracting or copying process or verifications of electronically obtained information.

B. Support for New Components of Previous and Current Projects

As specified in each Task Order, the Contractor shall:

1. Conduct activities related to previous and current projects of the Applied Research Program (ARP) that require new or follow-up components not covered under existing study-specific contracts, as defined by the COR. The Contractor shall work with other contractors or institutions, as needed, to accomplish these tasks. These activities include, but are not limited to:
  - a. Re-contact of study subjects to disseminate results or collect follow-up information;
  - b. Conduct medical records searches or searches of databases, such as the National Death Index or tumor registries;
  - c. Retrieve previously collected information needed for ongoing data analyses of previous projects;
  - d. Manage data collected as part of a new component to an old survey or project;
  - e. Code previously collected data; and,
  - f. Analyze previously collected data.

C. Quality Assurance/Quality Control, Verifications, and Reporting Requirements

As specified in each Task Order, the Contractor shall:

1. Develop and implement quality assurance/quality control (QA/QC) plans for all

aspects of data collection, data preparation, data entry, data coding, data management, and preparation of data files, including, but not limited to: staff training, interviewing, and development of tracking systems.

2. Use double-blinded coding verification of key variables.
3. Maintain clearly documented histories of development and updating of databases.
4. Report verification rates, discrepancy rates, and error rates for data collection, preparation and keying following a schedule agreed upon with the COR. Unusual problems should be brought to the attention of the COR within 48 hours of when the problem occurred.

#### D. Computer Programming

As specified in each Task Order, the Contractor shall:

1. Use the NIH/CIT computer facility (which has IBM mainframe computers) or an appropriate work station, as approved by the COR and relevant NIH authorizations, accessed by remote terminals to be provided by the Contractor on their own premises.
2. Design and maintain computer databases and associated reporting software.
3. Prepare and edit computer programs, edit data, and correct computer files when necessary.
4. Update existing data files with follow-up data, error corrections, etc. Maintain clearly documented histories of development and updating of databases, including documentation of any source code that may need to be developed.

### **Task Area 2: Questionnaire Development**

#### A. Develop new or modify existing dietary questionnaires

As specified in each Task Order, the Contractor shall:

1. Support, make modifications and update the layout and wording of: the Diet History Questionnaire DHQ, or other dietary questionnaires using software that creates machine-readable, web-based, or other types of electronic forms.
2. Develop new paper or electronic dietary assessment instruments for use in multiple research settings. Such instruments/software may include, but not be limited to, a food list, food list terms and nutrient database.

## B. Develop and maintain survey instruments for physical activity assessment

As specified in each Task Order, the Contractor shall:

1. Create, modify, and update the layout and wording of cell phone-based applications for assessing physical activity and an automated self-administered 24-hour physical activity recall using software that creates web-based and mobile application tools.
2. Create, modify, and update analytic datasets obtained from administration of cell phone-based applications and an automated self-administered 24-hour physical activity recall. In conducting this task, the Contractor shall design and maintain computer databases and associated reporting software, edit programs and correct files when necessary, update files with follow-up data, report errors. Such software and programming languages may include, but not be limited to C++, Java, SAS, Microsoft Excel or Microsoft Access.
3. Create codebooks and technical documents for cell-phone based applications and an automated self-administered 24-hour physical activity recall.
4. Analyze data provided by the Government for purposes of creating activity lists, probes, and wording for cell-phone based applications and an automated self-administered 24-hour physical activity recall.
5. Create, modify, and update a researcher portal for cell-phone based applications and an automated self-administered 24-hour physical activity recall.
6. Create, modify, and update feedback reports for study participants who complete cell phone-based applications and an automated self-administered 24-hour physical activity recall. In conducting this task, the Contractor shall create programs to combine, summarize, and visualize simultaneously collected self-report physical activity and objective monitor data.
7. Develop new paper or electronic physical activity assessment instruments for use in multiple research settings.
8. Use the most current Compendium of Physical Activities metabolic equivalent (MET) values and activity codes to create databases for cell phone-based applications and an automated self-administered 24-hour physical activity recall. In conducting this task, the Contractor shall perform literature searches to update and maintain the Compendium of Physical Activities.

## C. Other Questionnaire Development Activities

As specified in each Task Order, the Contractor shall:

1. Conduct rounds of cognitive interviews or focus groups in order to develop or pre-test draft paper-and-pencil or electronic survey questionnaires. The Contractor shall:
  - a. Work with NCI ARP staff to develop a research plan;
  - b. Develop advertisements, recruitment materials, or establishing means for recruitment at appropriate service organizations (such as an elder-care centers or health clinics);
  - c. Recruit individuals having a wide variety of demographic and health-related characteristics;
  - d. Schedule interviews and other related logistics;
  - e. Conduct approximately one-hour long focus groups or interviews, as needed, including appropriate incentives; and,
  - f. Report in writing group or interviewing results, with recommendations for changes in questionnaire content and organization.
2. Pre-test existing versions of Computer Assisted Telephone Interviews (CATI) and Computer Assisted Personal Interviews (CAPI) or other electronic instruments used in various projects, and shall assist in modifying such instruments, as needed. The Contractor shall conduct usability testing of web-based questionnaires, as needed.
3. Create and support all activities (e.g., forms design, codebooks, scanning programs, printing) for electronic or machine-readable instruments.
4. Perform behavior coding analysis to determine where questions present overt problems for both interviewers and survey respondents. Further, the Contractor shall produce quantitative tabular data detailing frequencies of various coded behaviors at the individual item level and conduct coder debriefings in order to obtain qualitative information related to likely sources of response error.

#### D. Translation Activities

As specified in each Task Order, the Contractor shall:

1. Translate survey questionnaires into languages other than English (e.g., Spanish, several Asian languages, French), evaluate the translated versions via review by bilingual staff, and conduct empirical forms of evaluation that involve analysis of fielded interviews across several languages.
2. Conduct cognitive interviews to pre-test draft questionnaires in a variety of

languages as appropriate to the relevant survey and target audience, for example, Spanish, Portuguese, French, and Chinese languages, using translated versions of draft survey questions. For this purpose, the Contractor shall select, train, monitor and conduct quality assurance on bilingual cognitive interviewers.

3. Program and test computerized administration systems, using a programming language that has received prior written approval by the COR, in several languages, as appropriate to the corresponding survey instrument. The Contractor shall evaluate each version to ensure that sequencing, program logic and any other program interfaces are identical across versions.

E. Quality Assurance/Quality Control

As specified in each Task Order, the Contractor shall:

1. Develop and implement quality assurance/quality control (QA/QC) plans for all aspects of questionnaire development including, but not limited to: staff training and interviewing.
2. Develop and implement quality control procedures for all aspects of data collection, data preparation and data entry, data coding, data management, and preparation of data files.
3. Maintain clearly documented histories of development and updating of databases. Unusual problems should be brought to the attention of the COR within 48 hours of when the problem occurred.

**Task Area 3: Database Development, Maintenance, and Enhancement**

A. Maintain and update a nutrient database for the NCI Diet History Questionnaire (DHQ) (<http://riskfactor.cancer.gov/dhq2/>) and other dietary assessment instruments

As specified in each Task Order, the Contractor shall:

1. Use the most current Nutrition Data Systems for Research (NDS-R) developed at the University of Minnesota (<http://www.ncc.umn.edu/products/database.html>), to link food codes to national dietary data from the National Health and Nutrition Examination Survey (NHANES) (<http://www.cdc.gov/nchs/nhanes.htm>), which uses USDA's Food and Nutrient Data for Dietary Surveys (FNDDS) (<http://www.ars.usda.gov/Services/docs.htm?docid=12089>). This shall require revisions as NDS-R is updated and maintenance of a licensing agreement with the University of Minnesota for use of NDS-R to create databases for food frequency questionnaires (FFQs) or other dietary assessment instruments.
2. Use other data sources provided by the Government to add other dietary constituents to the nutrient database for dietary assessment instruments. This may or may not require linking to national dietary data as described in 3.A.1. above.

3. Conduct literature searches to update and maintain the nutrient database for the DHQ and other dietary assessment instruments. In conducting this task, the Contractor shall design and maintain computer databases and associated reporting software, edit programs and correct files when necessary, update files with follow-up data, and report errors. Such software and programming languages may include, but not be limited to C++, Java, SAS, Microsoft Excel or Microsoft Access.

B. Develop and maintain databases and enhance functionality

As specified in each Task Order, the Contractor shall:

1. Develop new databases to support the objectives of the Applied Research Program. Such databases may include development of a new database of foods based on UPC codes that would include both nutrient and food group composition data.
2. Enhance functionality of existing web-based systems. This may include but is not limited to: the Grid-Enabled Measures Database (<http://cancercontrol.cancer.gov/brp/gem.html>); the MyPyramid Equivalents Database (<http://www.ars.usda.gov/Services/docs.htm?docid=17558>); and National Collaborative on Childhood Obesity Research (<http://nccor.org/index.php>) databases such as the Measures Registry (<http://nccor.org/projects/measures/index.php>) and the Catalogue of Surveillance Systems (<http://nccor.org/projects/catalogue/index.php>). Enhanced functionality may include automating updates, providing for the addition of data fields, or facilitating ease of use.
3. Impute missing data and weight data. Imputation and/or weighting shall be conducted as needed using widely used statistically methods and innovative methods. The Contractor shall have the capacity to weight data collected using complex sample designs.

C. Support Geographic Information Systems (GIS)-related activities

As specified in each Task Order, the Contractor shall:

1. Develop databases and appropriate metadata for geographically identified variables including diverse disease incidence and mortality rates, and demographic, behavioral, economic and environmental features at specified levels of aggregation including but not limited to county, school catchment area, zip code, Zip Code Tabulation Areas, census tract and block group using existing data resources.
2. Extract location related variables from map files and other GIS data. These variables may be related to street connectivity, access to diverse amenities in the

neighborhood such as food outlets, recreation facilities, schools, places of worship and employment and other aspects of the environment. Such variables may be aggregated into indices of access or walkability or they may be delivered as independent variables with appropriate meta data.

3. Use existing weather data resources such as <http://www.prism.oregonstate.edu/docs/index.phtml> and survey or health study data such as the NHANES, the California Health Interview Survey, or the AARP-NCI Diet and Health Study to create working data sets for the GIS based analysis of associations between weather and climate variables and modifiable behaviors such as physical activity, especially walking, and UV-related activities such as outdoor and indoor tanning.
4. Prepare maps presenting results from tasks 3.C.1. and 3.C.2. above.
5. Conduct literature searches to update and maintain these geo-coded databases.
6. Design and maintain computer databases and associated reporting software, edit programs and correct files when necessary, update files with follow-up data, report errors. Such software and programming languages may include, but not be limited to C++, Java, SAS, Microsoft Excel or Microsoft Access.

#### D. Support Health Services and Outcomes Research

As specified in each Task Order, the Contractor shall:

1. Conduct literature searches to on specific topic areas in health services and outcomes research.
2. Abstract or prepare databases of such literature searches.

#### E. Computer Programming

As specified in each Task Order, the Contractor shall:

1. Use the NIH/CIT computer facility (which has IBM mainframe computers) or an appropriate work station, as approved by the COR and relevant NIH authorizations, accessed by remote terminals to be provided by the Contractor on their own premises.
2. Design and maintain computer databases and associated reporting software.
3. Prepare and edit computer programs, edit data, and correct data files when necessary.

F. Quality Assurance/Quality Control

1. Develop and implement quality assurance/quality control (QA/QC) procedures for all aspects of database development, maintenance, and enhancement under this task.
2. Maintain clearly documented histories of development and updating of databases. Unusual problems should be brought to the attention of the COR within 48 hours of when the problem occurred.

**Task Area 4: Biological Specimen Support**

This task is for support of biological specimens. Biological specimens include, but are not limited to blood, tissue, urine, and buccal scrapes.

*NOTE TO OFFERORS: The Contractor will not be asked to collect, transport, perform assays, or store the specimens.*

As specified in each Task Order, the Contractor shall:

1. Conduct tasks such as literature searches and market research, on technical aspects of biological specimen collection, storage, or analyses.
2. Activities include: Conduct market research in order to determine the pros and cons of: 1) alternative biological specimen collection procedures, storage procedures, and analysis procedures, in accordance with all local, state and Federal statutes and regulations; and, 2) various quality control procedures for shipping, storage, and analysis of specified biological specimens.