

Amendment #1  
Solicitation PHS2017-1

**AMENDMENT ONE (1)**

OFFICE OF ACQUISITIONS

National Institute of Allergy and Infectious Diseases (NIAID)  
5601 Fishers Lane, Room 3D32, MSC 9821  
Rockville, MD 20852

Solicitation Number: PHS2017-1

Date of Solicitation Issuance: 08/01/2016

Date of Amendment No.1 Issuance: 09/22/2016

Number of Pages: 23

Points of Contact:

Primary Point of Contact:

George W. Kennedy, Contracting Officer

Email: [kennedyg@mail.nih.gov](mailto:kennedyg@mail.nih.gov)

Phone: 240-669-5170

Secondary Point of Contact:

Tiffany Chadwick, Contracting Officer

Email: [tiffany.chadwick@nih.gov](mailto:tiffany.chadwick@nih.gov)

Phone: 240-276-7293

---

**The hour and date specified for receipt of Offers remains unchanged.**

Except as provided herein, all terms and conditions of the solicitation remain unchanged and in full force and effect.

---

**Note - A recording of the pre-proposal conference and associated materials have been posted as follows:**

**Webinar Slides:** [http://bit.ly/HHS\\_SBIR\\_Slides](http://bit.ly/HHS_SBIR_Slides)

**Recording:** [http://bit.ly/HHS\\_SBIR\\_Recording](http://bit.ly/HHS_SBIR_Recording)

**Transcript:** [http://bit.ly/HHS\\_SBIR\\_Transcript](http://bit.ly/HHS_SBIR_Transcript)

---

**PURPOSE OF SOLICITATION AMENDMENT**

The purpose of this amendment is to provide a revision to Section 10 of the subject solicitation and to respond to questions. Accordingly, Solicitation PHS 2017-1 is revised as follows:

**Section 10 CONTRACTING OFFICER POINTS OF CONTACT FOR QUESTIONS RELATED TO SPECIFIC TOPICS** is revised to replace the Point of Contact for NCEZID, as follows:

**NATIONAL CENTER FOR EMERGING ZOO NOTIC AND INFECTIOUS DISEASE (NCEZID)**

Priscilla Turner

Contract Specialist

Centers for Disease Control and Prevention

Office of Financial Resources  
Phone: (770) 488-2821  
Fax: (770) 488-2044  
E-mail: [PBTurner@cdc.gov](mailto:PBTurner@cdc.gov)

## **GENERAL QUESTIONS**

The Government's responses to questions received regarding this solicitation are as follows:

### **Question 1: How does the funding break down by IC/component for the contracts (% to each)?**

*Answer 1:* Each NIH Institute/Center and the CDC have set aside not less than 3.2% of its extramural R&D budget for SBIR funding for fiscal year 2017. Each IC/component individually determines how to allocate its SBIR budget between grants and contracts. The amount available for each topic under this solicitation is listed in Section 9 of the solicitation.

### **Question 2: Must Principal Investigators (PI) be MDs or PhDs, or can anyone with the pertinent experience propose as PI?**

*Answer 2:* The Principal Investigator must demonstrate the training and experience necessary to carry out and lead the project, regardless of degree.

### **Question 3: Should a proposal be submitted by a PI, or an authorized official at the submitting organization?**

*Answer 3:* While any registered user of the eCPS can upload a proposal, the proposal should be signed by an official legally authorized bind the institution.

### **Question 4: Where on the SBIR website can we sign up for the weekly receipts for Grants and Contracts?**

*Answer 4:* See here: <http://grants.nih.gov/grants/guide/listserv.htm>.

### **Question 5: Once a proposal is submitted, who decides if the proposal is significant, i.e. peer-review committee or Contracting Officer/NIH?**

*Answer 5:* As discussed in Section 6, technical proposals submitted to the NIH will first be evaluated by a peer review panel of experts composed of nongovernmental personnel, followed by a second level of evaluation by NIH program staff. Technical proposals submitted to the CDC will be evaluated by a panel composed of internal governmental scientific and technical experts. At both the NIH and the CDC, the Contracting Officer will evaluate the business proposal as well as ensure that both the technical and business proposals comply with all requirements set forth in the solicitation.

### **Question 6: What is the difference between the deadline for grants and the deadline for contract proposals?**

*Answer 6:* Proposals submitted in response to this SBIR Contract Solicitation "PHS 2017-1" are due on October 21, 2016, 5PM ET. Standard SBIR grant application due dates are listed at <https://sbir.nih.gov/apply/submission-dates>.

### **Question 7: For PHS-1, are those considered as contract or grant?**

*Answer 7:* SBIR awards resulting from this solicitation, "PHS 2017-1," will be contracts.

**Question 8: Is there a page limit for each of the sub-sections (example: Identification and Significance of the Problem or Opportunity; Technical Objectives; Work Plan etc.) in the Research Plan for a Phase I Proposal?**

*Answer 8:* There are not page limits for specific sections within the “Content of the Technical Element” portion of the technical proposal. It is up to the applicant to determine how to best utilize the overall page limit for the entire technical proposal. Refer to Sections 7.3, 8.3, and 8.4 of the solicitation.

**Question 9: In reading the application development topics, Phase I deliverables appear overly ambitious for the available funds. Without the ability to modify the scope, how do you propose to achieve deliverables?**

*Answer 9:* It is up to the applicant to propose the best technical solutions available to attempt to achieve the deliverables within the allotted budget. If the applicant does not find it feasible to meet all deliverables within the allotted budget, the applicant’s proposal may set forth a plan prioritizing the achievement of each deliverable and discussing how much of the plan the applicant feels it can realistically accomplish within the allotted budget.

**Question 10: Does the max amount mentioned in the contract solicitation include both the direct and indirect costs?**

*Answer 10:* Yes, the total budget listed per topic, per phase is all-inclusive, composed of direct costs, indirect costs and profit/fee.

**Question 11: Does NIMH have a Zero Suicide application?**

*Answer 11:* This is not relevant for this SBIR RFP. Please contact NIMH SBIR for information at: <https://sbir.nih.gov/engage/ic-contacts>.

#### **Section 4.2 Offeror Eligibility and Performance Requirements**

**Question 1: Do you have any advice on how a clinical study may be conducted at a collaborating institution’s facilities in Phase II while still being in compliance with the requirement that the small business perform at least 50% of the work, as measured by total project costs?**

*Answer 1:* Whether an offeror can complete a clinical trial in Phase II depends on the type of the clinical study, the number of sites involved and the total number of patients planned. A few potential methods for enabling a clinical trial in Phase II are as follows:

- The small business applicant can maximize its effort in the study design, protocol development, and data analysis portions of the clinical trial.
- The small business applicant can identify as many direct costs associated with supporting the clinical trial as possible that it can supply itself, rather than an agreement with the collaborator for an all-encompassing per patient fee structure, such as any materials, supplies, reagents, etc., to minimize cost line items included in subcontractor/consultant agreements.
- Cost Sharing (i.e., Co-Funding) – The small business applicant or the collaborating institution may propose to absorb some of the costs associated with the trial itself or obtain outside funding to supplement the Government’s SBIR funding obligation, so that no more than 50% of the portion of the costs covered by the Government is going to fund work performed by an institution other than the small business applicant.
- In rare cases, written deviations from the 50% requirement may be granted, after a review and approval process. If requesting a deviation, please clearly state this in your business/pricing

proposal, along with a justification for why the project may not be completed unless greater than 50% of costs may be allocated to subcontractors/consultants and a description of how the small business's effort will be maximized and substantial.

**Question 2: How do the percentages apply if a subcontract is a for-profit company?**

*Answer 2:* It is not relevant whether a subcontract is to a for-profit large business, a small business, a non-profit, or an educational institution. The subcontracting limitation only concerns how much work is performed by the applicant Small Business Concern itself versus how much work is performed by any collaborator (subcontract or consultant). For a Phase I award, the applicant Small Business Concern must perform a minimum of two-thirds of the effort itself, and for a Phase II award, the applicant Small Business Concern must perform a minimum of one-half of the effort itself.

**Question 3: We have a developer who is a Canadian citizen who works remotely from Belgium, and may be paid by the SBC. Does this clause prohibit his working directly for the SBC on this SBIR project? In regard to US-based subcontractors, do all their employees have to be in the US, or can they have developers on their team outside the US so long as the subcontractor business is US based?**

*Answer 3:* All R/R&D work must be performed in the United States. Work must be completed by persons physically located in the United States. However, based on a rare and unique circumstance, agencies may approve a particular portion of the R/R&D work to be performed or obtained in a country outside of the United States; for example, if a supply or material or project requirement is not available in the United States. The Contracting Officer must approve each such specific condition in writing. You are encouraged to find a U.S. based consultant or subcontractor. If that is impossible, please discuss the issue in the follow-on pages of Appendix C, as well as in your technical proposal, with a justification of why you are unable to find the required expertise in a U.S. based consultant or subcontractor. If your proposal is being considered for award following the initial evaluation, this may be an issue that is discussed during negotiations, prior to an award being made.

**Section 4.18 Prior, Current, or Pending Support of Similar Proposals or Awards**

**Question 1: Is it allowed/encouraged to submit an SBIR proposal to develop a commercialization project that complements an informatics tool that is currently under development through a grant award, such as an "Advanced Development of Informatics Technology (U24)"?**

*Answer 1:* To be considered for an award under this SBIR contract solicitation, you must propose new work that meets the specifications of the Topic (i.e., the Topic's Project Goals and Deliverables, set forth in Section 12). This work must not be duplicative of what you are already doing under your current grant. If there is a project that you could propose to supplement your current grant, without duplicating any efforts, and that project focuses on all of the Project Goals and Deliverables for the Topic, not only a commercialization plan, then you may consider submitting a proposal. In that scenario, you would want to take care to reference your current grant in your proposal and clearly delineate how the proposed SBIR contract work would be separate (though perhaps complementary) to your grant work.

**Section 5 Contract Requirements**

**Question 1: How does the contract policy on IP ownership differ from that of the grant policy?**

*Answer 1:* SBIR IP policy is the same for grants and contracts.

**Question 2: Are there guidelines or limitations to salaries covered by the contract?**

*Answer 2:* Yes, in accordance with the NIH Salary Rate Limitation listed in Section 5.1, contract funds cannot pay the direct salary of an individual at a rate in excess of \$185,100, annually.

**Section 6 Method of Evaluation**

**Question 1: Would my proposal be more competitive if I involve a subject matter expert directly as a consultant or through a subcontract with the expert's institution?**

*Answer 1:* The formal instruction given to the panel who will be reviewing proposals will be to follow the Technical Evaluation Criteria set forth in Sections 6.2 and 6.3 of the solicitation, as written. Please review the criteria and use your best professional judgement on how to compose your proposal. The amount of time that the subject matter expert is to provide and the nature of the work that the expert is to perform are aspects that will likely be the focus of evaluation concerning expert collaborators. Applicants may also wish to consider budget implications, as subcontractor agreements may involve higher indirect costs than individual consultant arrangements.

**Question 2: Please speak to the review structure for NIH contracts and how this may differ from SBIR grant review?**

*Answer 2:* Contract review is described in Section 6 of the RFP. Grant review is described here: <https://sbir.nih.gov/review/selection-process>.

**Section 7 Proposal Submission**

**Question 1: Is it allowable for me to call the Program Officers for guidance?**

*Answer 1:* No, as stated in section 7 all communications with respect to this RFP can only be submitted to the Contracting Officer point of contact listed in Section 10.

**Section 8.10 Human Subjects Research and Protection from Risk**

**Question 1: Our research uses human blood samples. Some or all of them may come from commercial sources. Would this be counted as "human subject" and we need to fill related forms?**

*Answer 1:* The issue of using samples already collected is whether anyone involved in the conduct of the research can link the samples to living persons. If you will be using human samples previously collected and do not have access to any identifiers, this does not meet the regulatory definition of human subjects. If the source is commercial, this is not human subjects research. For other sources, it depends. For example, if one of the co-investigators provides samples he/she collected previously and he/she has the ability to link the samples to living individuals, then this is human subjects research.

Proposals utilizing human materials should address the issue either way – clearly stating the source of all human materials and justifying why the use of human materials does or does not meet the definition of human subjects research. Refer to the definition of "Research Involving Human Subjects" set forth in Section 3.2 of the solicitation ("Definitions (Relating to R&D)). Note that if the work is designated as human subjects research, your proposal would also have to discuss inclusion. These issue will be reviewed by the technical review committee.

**Question 2: If the acquisition of the blood samples is only from a commercial source, is it correct that no particular documentation is required to comply with NIH policies? Or, is some form required to be obtained from the commercial vendor?**

*Answer 2:* If human samples are purchased from commercial sources, no IRB review or other human subjects protection documentation will be required, as samples from commercial sources without identifiers are not considered human subjects research. As mentioned in the previous Q&A, offerors should address the issue in your proposal, to ensure that reviewers have the information necessary to verify that all regulations are being complied with on a case-by-case basis.

### **Section 8.16 Content of the Pricing Proposal (Item Two)**

**Question 1: Are there pre-set rates for overhead, direct and fringe that we can use, rather than try to go through the process of calculating these? Our controller isn't quite sure how to generate the numbers. Alternately, if there aren't pre-set rates, is there information about how we can do these calculations in an approved way.**

*Answer 1:* The solicitation allows for small business to charge indirect costs at a rate of up to 40% of total direct costs without requiring that the small business negotiate an indirect rate agreement with the NIH Division of Financial Advisory Services (DFAS). However, this does not mean that an indirect rate of 40% will be acceptable for every business. Your business should complete a table such as the one found at the website below to be able to justify your rate (of up to 40%):

- <https://oamp.od.nih.gov/dfas/indirect-cost-branch/indirect-cost-submission/indirect-cost-definition-and-example>

After reviewing the DFAS website above, if you have further questions, you are encouraged to contact the DFAS staff at [dfas-idc@nih.gov](mailto:dfas-idc@nih.gov) for assistance in understanding how to determine an appropriate indirect rate.

### **Section 10 Contracting Officer Points of Contact for Questions Related to Specific Topics**

**Question 1: Is a letter of intent to propose required to be submitted in advance of a proposal?**

*Answer 1:* A Letter of Intent is desired for planning purposes, but is not required. A business may submit a proposal without having first submitted any notice of its intent to propose.

### **SPECIFIC TOPIC QUESTIONS**

The Government's responses to questions received regarding this solicitation are as follows:

*National Cancer Institute (NCI),*

#### **Topic 355: Cell and Animal-Based Models to Advance Cancer Health Disparity Research**

**Question 1: Would a Humanized/PDX mouse model be acceptable as a platform rather than PDX mouse model?**

*Answer 1:* Yes.

**Question 2: Does NCI have a list of standard chemotherapeutic agents that the offeror has to test in the model? Could we test immunotherapies instead?**

*Answer 2:* NCI is not providing a list of standard chemotherapeutic agents. The therapeutic chosen should be one that enables appropriate validation of the model, which would be a matter that could be discussed during technical evaluation of the proposal. Immunotherapeutics can be proposed.

**Question 3: With respect to PDX animal model deliverables, will Topic 355 allow for PDX generated from liquid tumors (leukemia) as well as PDX generated from solid tumors?**

*Answer 3:* Yes, all tumor types will be considered.

*National Cancer Institute (NCI),*

**Topic 356: Tools and Technologies for Monitoring RNA**

**Question 1: For the purposes of Topic 356, are circular RNA considered as a form of modified RNA? Would NCI be interested in tools that allow detection/monitoring of cancer related circular RNA such as ciRS-7?**

*Answer 1:* Yes circular RNAs are an RNA modification that are of interest to the NCI and are considered as being within the scope of Topic 356.

*National Cancer Institute (NCI),*

**Topic 357: Innovative Tools for Interrogating Tumor Microenvironment Dynamics**

**Question 1: Would the following technology fall within the scope of Topic 357? We are evaluating developing biopsy-implantable sensors for tumor microenvironment monitoring that can measure analyte concentration at one point in space or as an average along a line. The sensors are 1 mm in diameter and several sensors could be implanted to achieve spatial resolution. We anticipate our sensors to be capable of rapid and effective in vivo evaluation of TME-manipulating dynamics where the sensors are located?**

*Answer 1:* The technology described above would likely fall within the scope of Topic 357.

**Question 2: Would the following technology fall within the scope of Topic 357, even though the imaging component is not real time – monitoring cytokines in a cohort of high risk cancer patients using a novel multiplex proteomic platform to measure proteins longitudinally, creating 3D-reconstruction of biopsies and excised tumors that develop?**

*Answer 2:* The technology described above would likely fall within the scope of Topic 357; however, the ability of the proposed technology to assess TME characteristics dynamically will be evaluated during technical review.

*National Cancer Institute (NCI),*

**Topic 360: Manufacturing Innovation for the Production of Cell-Based Cancer Immunotherapies**

**Question 1: There are many deliverables listed for either phase I or phase II activities for Topic 360. Should we meet all the listed deliverables in our proposal to be competitive for award? Or would meeting even just one of the listed deliverables be sufficient for award?**

*Answer 1:* For Topic 360, competitive proposals should thoroughly address all of the Phase I activities and deliverables. Phase II deliverables should be briefly mentioned in the context of the instructions set forth in Section 8.8 (A)(5) of the solicitation – “State the anticipated results of the proposed approach, assuming project success” and “Discuss the significance of the Phase I effort in providing a foundation for the Phase II R/R&D effort.”

You should note, however, that there are a few requirements listed in the Topic that include “and/or” statements; in these cases, offerors are expected to address only the items that are pertinent to their proposed technology. For example, under bullet #4, the Topic indicates that offerors must “Provide proof of collaboration or partnership with an entity that is developing a representative cell-based therapeutic agent OR otherwise demonstrate access to a representative cell-based therapeutic agent

through other means (e.g., internal drug development program), that can be used for validation of the device/technology/process”. This requirement is intended to provide the offeror flexibility in how/where they obtain access to a relevant cell-based therapeutic agent for validation, but this fundamental requirement must be met to be competitive.

**Question 2: One deliverable required by Topic 360 asks for the awardee to “demonstrate pilot-scale beta-testing of the production process to demonstrate reproducible performance within appropriate specifications for identity, purity, potency, and/or other relevant metric for the chosen cell-based immunotherapy product.” For this deliverable, can you clarify the meaning of “pilot scale” with respect to production of CAR-T cells? Does this mean anything larger than laboratory bench top?**

*Answer 2:* “Pilot scale” is generally considered an intermediate scale between bench/lab scale and industrial scale. Offerors are expected to define “pilot scale” in the context of the production process that is proposed.

**Question 3: Are there preferred quantitative metrics are you looking for in defining “reproducible and robust” production methods of cell therapies?**

*Answer 3:* The NCI is not specifying preferred quantitative metrics. The Offeror is responsible for establishing defined specifications, assays and/or metrics to interpret scientific data supporting the feasibility of the device/technology/process. The Offeror is also responsible for providing the justification for these specifications, assays, and/or metrics.

**Question 4: How would you prefer to define a pass vs fail in cell production? What do you perceive to be the greatest unmet need for clinical checkpoints in a general workflow?**

*Answer 4:* The NCI is not defining pass versus fail in cell production, nor is the NCI specifying greatest unmet needs for clinical checkpoints in a general workflow.

**Question 5: Do these metrics for reproducibility and robustness differ in autologous vs allogenic applications, and if so, how?**

*Answer 5:* The NCI is not specifying preferred quantitative metrics. The Offeror is responsible for establishing defined specifications, assays and/or metrics to interpret scientific data supporting the feasibility of the device/technology/process. The Offeror is also responsible for providing the justification for these specifications, assays, and/or metrics. It is expected that offerors will demonstrate the utility of their innovation(s) in the context of at least one cell-based product, which is representative of a particular class of cell-based cancer immunotherapies.

**Question 6: What kinds of cell quantities and culture volumes are typical for cell manufacturing processes?**

*Answer 6:* The NCI is not specifying cell quantities and culture volumes that are typical for cell manufacturing. The Offeror is responsible for developing a device/technology/process (including all of the relevant procedures and specifications) to support commercially-relevant manufacturing improvements for the production of a specific class of cell-based cancer immunotherapies.

**Question 7: What are the current technical bottlenecks in the cell therapy production workflow?**

*Answer 7:* The NCI is not specifying current technical bottlenecks in the cell therapy production workflow.

**Question 8: Do you have preferred specifications to guide the goal of “uniform identity and potency” for cell therapies? Would manufacturers need to demonstrate via in-process QC testing they’ve reduced or eliminated nonspecific cells to a threshold level?**

*Answer 8:* The NCI is not providing preferred specifications regarding uniform identity and potency.

**Question 9: When the Topic refers to “contamination” does it refer to bacterial contamination or unwanted cells (IE red blood cells)?**

*Answer 9:* The Offeror is responsible for defining “contamination” (if applicable and as appropriate) in the context of the particular class of cell-based cancer immunotherapies being studied for demonstration purposes.

**Question 10: Is there a preferred specification or format for sterile liquid connections and storage (I.E. leuc lock and blood bags)?**

*Answer 10:* The NCI is not providing preferred specifications or formats for liquid connections and storage.

**Question 11: Concerning cell separation, what do you perceive as the greatest unmet needs? What do you see as the main technical challenges?**

*Answer 11:* The NCI is not specifying greatest unmet needs and/or technical challenges concerning cell separation.

*National Cancer Institute (NCI),*

**Topic 362: Informatics Tools to Measure Cancer Care Coordination**

**Question 1: Does this project require EHR integration? To what extent do we need to discuss this in a Phase I proposal?**

*Answer 1:* Yes, Topic 362 requires EHR integration. The Phase I proposal needs to clarify the conceptual approach taken for EHR integration. Several approaches are feasible: a) extraction of data from EHRs while the display of measure need not be within an EHR, b) extraction of data from EHRs and display within an EHR, c) extraction of data from EHR, display within an EHR, and communication of measure through EHR. It is expected that usability testing and the constraints imposed by the information architecture and workflow at a cancer care delivery site will clarify the optimal approach to EHR integration.

**Question 2: Does this project require a clinical partner and/or access to live clinical data for Phase I? Is it expected that a Phase I project extract live clinical data to show proof of concept?**

*Answer 2:* Yes, Topic 362 requires a clinical partner. Access to live clinical data are desirable but not a requirement for Phase I. Historical clinical data are acceptable as long as the approach taken for historical data will be applicable to live data to be used in Phase II.

**Question 3: Should we be incorporating and testing 5 of the 12 cancer-specific measures available in the National Quality Measures Clearinghouse or developing our own?**

*Answer 3:* Any 5 of the cancer-specific measures from National Quality Measures Clearinghouse can be used. The time and resources for the project will not allow development and validation of new measures. Any proposal to develop new measures will be deemed to be unresponsive to the solicitation.

**Topic 363: Connecting Cancer Caregivers to Care Teams: Digital Platforms to Support Informal Cancer Caregiving**

**Question 1: Does this project require EHR integration? To what extent do we need to discuss this in a Phase I proposal?**

*Answer 1:* No, Topic 363 does not require EHR integration, but the platforms should directly connect caregivers to their care recipients' healthcare providers. Building off of models that connect care teams to patients, for example, patient portals, is a preferred approach. The Phase I proposal should discuss the conceptual approach taken, including the modules that will be provided for user feedback and usability testing.

**Question 2: Does this project require a clinical partner and/or access to live clinical data for Phase I? Is it expected that a Phase I project extract live clinical data to show proof of concept?**

*Answer 2:* Yes, Topic 363 does require a clinical partner. Access to live clinical data for Phase I is desired but not required to show proof of concept.

**Question 3: Should we be incorporating an existing care plan used in an EHR to roll into our platform, or is the care plan something that we should develop and disseminate in Phase I?**

*Answer 3:* Although it could be either, development of the care plan itself is considered outside of this particular solicitation.

**Question 4: What kind of peer-to-peer connection is the Government looking for under this Topic? What parties would the Government be interested in the platform connecting – e.g., caregivers, providers, patients – and how would the Government be interested in having those parties connected – e.g., social networks, in-app messaging?**

*Answer 4:* The main parties that the platform should be connecting are caregivers, patients, and providers. Connecting patients to providers is not sufficient; caregivers must be incorporated. Of the approaches proposed (social networks, in-app messaging), both are desirable but direct provider to caregiver communication should be included.

**Question 5: Would the following technology fall within the scope of Topic 363? We are developing a mobile Cancer Care Communication and Coordination Application for Patients, Caregivers and Providers that provides a personal Patient Navigator, a HIPAA-compliant Group Chat, and a Home Care Dashboard. The Patient Navigator brings the patient, their caregivers and their providers together into a HIPAA-compliant Group Chat, and handholds the patient and caregivers throughout the course of care. The Home Care Dashboard helps patients and caregivers stay on track with care instructions at home. We have partnered with oncology groups to develop and pilot the tools?**

*Answer 5:* The technology described above would likely fall within the scope of Topic 363.

**Question 6: Does Topic 363 allow for, or envision, an applicant with partners that has a set of software tools both cancer specific and generic for patients and caregivers that could serve as the platform for expansion and customization to meet the unmet needs and gaps of cancer patients and their caregivers as defined in phase I? Alternatively, is there a preference to build exclusively based on the gaps and unmet needs Identified? If there is interest in enhancing and customizing existing tools sets to meet the needs of cancer patients and their caregivers, is it reasonable to apply via a Fast Track proposal if the applicant feels they have a solid technology foundation?**

*Answer 6:* The small business needs to be able to develop and commercialize the software tool as the solicitation describes. The small business may do this in collaboration with partners, with the most likely scenario being that collaborators will do the clinical studies to validate that the software tool functions as it is designed. A Fast Track proposal may be evaluated well if there is already a platform technology in place that can be customized to fit the needs of cancer patients and their caregivers. Keep in mind, however, that a Direct to Phase II contract will not be considered for this Topic. Projects must begin at the Phase I level, and a Fast Track proposal consists of a complete Phase I proposal as well as a complete Phase II proposal.

*National Cancer Institute (NCI),*

**Topic 368: Molecularly Targeted Radiation Therapy for Cancer Treatment**

**Question 1: Would the following technology fall within the scope of Topic 368 – a bone cancer drug that is targeted radiation therapy (TRT) but is a small molecule, rather than a biologic, and which does not target cancer cells themselves, but targets osteoblastic tissue near the cancer cells?**

*Answer 1:* The technology described above would likely fall within the scope of Topic 368.

**Question 2: Would the following technology fall within the scope of Topic 368 – a new product for radiation dosimetry in small animal cancer models, consisting of a body conforming animal mold for consistent spatial co-registration of small animals, a statistical mouse atlas based on an organ probability map for providing the animal’s anatomy across the entire cohort, and a cloud-based data analysis software for automated dosimetry calculations?**

*Answer 2:* The technology described above would not be within the scope of Topic 368. This Topic is focused on targeted radiopharmaceutical development which is not the focus of the technology proposed by the applicant. However, you may consider applying under an SBIR grants solicitation instead of this contract solicitation.

*National Cancer Institute (NCI),*

**Topic 369: Development of Pediatric Cancer Drug Delivery Devices**

**Question 1: Would the following technology fall within the scope of Topic 369 – a wafer containing polymeric bound chemotherapy which can be implanted in an inoperable tumor or implanted as a neoadjuvant before surgery or implanted after surgery to destroy any potential remaining cancer cells and provide local and controlled chemotherapy?**

*Answer 1:* This Topic broadly focuses on innovative drug delivery devices as opposed to drug delivery materials and vehicles. The technology described above sounds like it is actually a new drug delivery vehicle that is supposedly delivered using current delivery methods. The project would be more likely to fall within the scope of this Topic if you can propose or show innovation in how the wafer is implanted/delivered to the pediatric patient. If not, the proposed technology would likely fall outside the scope of this Topic; however, you may consider applying under an SBIR grants solicitation instead of this contract solicitation.

**Question 2: Can you clarify the difference between a delivery vehicle and a delivery device?**

*Answer 2:* The distinction is being made between innovative ways to deliver the drugs to pediatric patients (which would be considered within the scope of Topic 369) and novel drug formulations, such as nano encapsulation, where the drug is delivered via conventional means (which would not be considered within the scope of Topic 369). Businesses pursuing a new method to deliver drugs to pediatric patients that can meet the anatomical restrictions and also can handle the dosage challenges for pediatric patients are encouraged to submit a proposal.

**Question 3: We specialize in sensors but not really in the delivery devices. Is NCI interested in sensor-only proposals?**

*Answer 3:* The goal of this contract Topic is to deliver treatment to pediatric patients. A sensor that can aid in this process will be useful but successful proposals will need to demonstrate the drug delivery part of the process as well. If a small business is only interested in developing the sensor, it is suggested that they consider applying under the omnibus grant solicitation instead of under this contract solicitation.

**Question 4: Do you have any cited publications supporting the need for this topic that we can review?**

*Answer 4:* NCI does not have any additional citations that it can share at this time.

**Question 5: Would the following technology fall within the scope of Topic 369 – a drug delivery device designed specifically for children, that will non-invasively deliver hearing protection steroid therapy to child inner ears (cochleas), to rescue their hearing from chemotherapy regimens?**

*Answer 5:* The technology described above would likely fall within the scope of Topic 369.

*National Center for Advancing Translational Sciences (NCATS),*

**Topic 015: Development of a Drone to be used in Laboratory Automation Projects**

**Question 1: Does the drone need to be sterile, cleanable, or adhere to any biologic safety standards?**

*Answer 1:* The drone should be able to operate in a BSL2 level environment:

[https://en.wikipedia.org/wiki/Biosafety\\_level#Biosafety\\_level\\_2](https://en.wikipedia.org/wiki/Biosafety_level#Biosafety_level_2)

The drone does not need to be sterile. The ability to be cleaned is not a strict requirement.

**Question 2: What is an acceptable precision of microplate or item placement?**

*Answer 2:* This is dependent upon the fixture the microplate will be placed in; but the drone should be capable of placing an object with a tolerance of +/- 2mm in the x, y, and z coordinate system.

**Question 3: Are there restrictions on which RF, IR or ultrasonic bands can be used in the lab environment?**

*Answer 3:* There are no restrictions on RF, IR or ultrasonic bands that can be used in the lab environment.

**Question 4: Will humans work alongside the drone?**

*Answer 4:* The concept of a collaborative drone is not a strict requirement.

**Question 5: Does the drone need to interface with microplate handling devices, for example to be alerted when a plate is ready to be picked up? With any other devices?**

*Answer 5:* The drone should be able to interact with traditional high throughput screening (HTS) scheduling platforms. Typically, this is done via TCP/IP communication; such that a protocol is established that the controlling scheduling software should be able to send a message to the drone when a plate move is requested. To meet this requirement there just needs to be a means for an external message to be received by the drone to initiate an action; and the drone should also be able to respond in kind once the action is complete.

**Question 6: How far past the drone rotors should the arm extend?**

*Answer 6:* Long enough to account for the entire length of a microplate (127.76 mm as defined by the ANSI SLAS 1-2004 (R2012) (formerly recognized as ANSI/SBS 1-2004) standard);

[https://www.slas.org/SLAS/assets/File/ANSI\\_SLAS\\_1-2004\\_FootprintDimensions.pdf](https://www.slas.org/SLAS/assets/File/ANSI_SLAS_1-2004_FootprintDimensions.pdf)

Plus some distance to potentially place a plate in a hotel location. There is no strict requirement but to be safe assuming 127.76 mm + (25-50) mm.

**Question 7: What is an acceptable failure rate, where failure is dropping or otherwise failing to correctly deliver a plate or an item?**

*Answer 7:* Given that the intent of this solicitation is to potentially replace a multi-axis articulated robotic arm with an automated gripper that can perform close to 1 million plate movements per year without failure this is a key component of this solicitation. Realistically; a target of 1 failure per 1M moves is not feasible yet but without this being a reliable transportation method with a failure rate less than 1 per 1000 moves there will be little chance of adoption.

**Question 8: The RFP states that the NCATS team has already developed some components. Do those need to be used as is, or can they be modified?**

*Answer 8:* Although components have been developed; this was more to prove that the concept was technically viable but there is no intent to have these be used by other parties.

**Question 9: Would it be possible to tour a lab to get first-hand experience of the lab environment?**

*Answer 9:* Tours are available following award of the contract.

**Question 10: Is NCATS planning on using these drones in tandem with the Robotic arms or as a means of replacing the robotic arms?**

*Answer 10:* This could be both; they could replace robotic arms but also they could work in tandem with them but not within the same work envelope aside from a hand-off location of a plate.

**Question 11: How far should these drones be able to travel? We are assuming you want it to go between rooms, but how many rooms? What is the square footage of the rooms?**

*Answer 11:* Although it is possible to have the drones travel between rooms the original intent was for the drones to work within a confined laboratory space. For square footage estimates assume around 600 sq/ft.

**Question 12: The listing mentioned existing research into this, is a summary or copy of this existing research available?**

*Answer 12:* The work done to date has not been published yet given it was ongoing this past summer but we intend to do so shortly.

**Question 13: Does an existing gripper and/or wireless charging mechanism exist for the drone.**

*Answer 13:* A gripper does exist and we utilized commercially available automated charging mechanisms. Neither of these are required to be used by anyone submitting a proposal.

**Question 14: In the solicitation, it is mentioned that NCATS has some drone capability including a functional gripping mechanism and automatic charging station. Would this design be available for an offeror right now or the contractor after the Phase I award?**

*Answer 14:* These designs and documents would be made available after the Phase I award; the internal NCATS work was to determine the technical feasibility of this project before the announcement of this SBIR but was not intended to be a foundation for a proposal.

**Question 15: Is there is any range of electromagnetic spectrum (light, radio wave, etc.) that should not be used in order to avoid interfering with the testing or any equipment?**

*Answer 15:* None.

**Question 16: Are their requirements for a target operating system to manage this system? Windows, MacOS, iOS, or Android?**

*Answer 16:* There is no strict requirement but the NCATS work done to date has utilized a combination of OSES; including Android, Windows and Ubuntu Robotic Operating System (ROS). Pretty much whatever works.

**Question 17: Are their limitations of microplate pitch and vibration that have to be accounted for at pick-up, in-flight, and drop-off?**

*Answer 17:* We have not thoroughly tested this yet but given that these samples tend to be moved in a standard x, y, z coordinate system by robotic arms while maintaining a position parallel to the floor of the laboratory that is the ideal. That being said; some pitch/vibration is acceptable but we do not have specific numbers to say exactly how much.

**Question 18: Are there limitations to drone and microplate gripper materials and magnetic interference?**

*Answer 18:* None outside of general consideration that every piece of hardware used in a HTS environment is comprised of electromechanical systems consideration should be taken into account that magnetic interference may have unintended consequences on these devices. Also, given that the sample plates to be used are most commonly made of polypropylene, polystyrene or cyclic olefin polymer and are non-magnetic solutions that require electromagnetic elements may not be ideal. One NCATS proof of concept does rely upon an electromagnetic gripper but that was to pick and place ferrous objects.

**Question 19: At project completion who owns the intellectual property/patents of the drone hardware and configuration, hardware and system design, and auto-pilot software?**

*Answer 19:* See Section 5.6 for an explanation of the intellectual property rights of an SBIR contract.

*National Heart, Lung, and Blood Institute (NHLBI),*

**Topic 098: Testing and Validation of Technologies for Inclusion in the CART Demonstration Project for Collaborative Aging Research**

**Question 1: We are not participating in the CART Demonstration grant which had a deadline in January 2016 so I was curious if the Testing and Validation can be done on technology that “could be used” in a future demonstration project or if that option is only for those who have applied for and received RFA-AG-16-021.**

*Answer 1:* Yes – the contract topic is specifically geared toward technology to be used in the CART project, not just people who have been awarded CART awards. The technology development staff from a small business will work with the CART investigators and NHLBI Program Office once a contract is awarded. The technology developed by the small business will use the platform requirements provided through the CART grant for testing so their technology WILL be tested in the demonstration project. It is also expected that the SBIR staff would sit on a few of the CART committees to provide feedback on the platform requirements developed for the demonstration project.

**Question 2: We wanted to learn if respiratory conditions are of an interest for the SBIR contract solicitation topic 098.**

*Answer 2:* Yes, pulmonary technologies are responsive as well (really anything within NHLBI's mission).

**Question 3: We have a question for topic 098. It mentions in the solicitation that this supports testing and validation of existing technologies within the context of the CART Demonstration Project being developed under a separate grant award (RFA-AG-16-021). Our question is about the any dependencies on this prior award which we did not apply for. The general question is whether this solicitation is targeted to prior award companies and if it's open to all, how does NIH envision this dependency? For example, is it simply there are technologies that will result in RFA-AG-16-021 which could/should be included in the efforts of this SBIR, etc.?**

*Answer 3:* The SBIR contract solicitation is not targeted to prior companies and is open to all small businesses that qualify. The staff from a small business contract award would work with the investigators of the CART grant and sit on committees to provide feedback on the platform requirements to test technologies in the home (the demonstration project). The small business would propose their own technology related to the mission of NHLBI and be able to test/validate the technology using the CART platform requirements in various home settings (e.g., urban, rural, single-family, multi-family, etc.)

**Question 4: Are we able to speak to a program representative if we have questions:**

*Answer 4:* Any communications that take place between an offeror and the government related to an offeror's proposal preparation must to be facilitated by the Contracting Officer. An offeror cannot communicate directly with the cognizant program official after a solicitation has been made available to the public.

**Question 5: The solicitation mentions 3 awards with a Phase 2 budget of \$1M...is the intent to have 3 awards with each at the \$1M budget level or is it the budget level divided by 3 (~\$333k)? Same question for the Phase 1 budget.**

*Answer 5:* Phase II has a budget of 1 Million per Phase II award and there will be up to 3 awards and Phase I has a budget of 150,000 for each Phase I and there will be up to 3 awards.

**Question 6: Can Community Health Centers help fund the implementation of the research in their facilities? For example, can they pay a portion of the salaries of the nurses/dieticians, etc that will be utilized as part of the project? This will help us to solidify our phase 3 process.**

*Answer 6:* It is unclear how the Community Health Centers will interact with the device/technology being tested and validated in a CART home. A proposal should include a description of urban or rural setting, single or multi family home and description of the person in the home such as age and possible other characteristics such as chronic health conditions of interest to NHLBI. The contract includes testing and validating the technology in a CART designated home (and person or persons in the home) to obtain user feedback of the technology, connectivity issues with the technology and home, interoperability of the technology with, as an example, the Community Health Centers EHR, data privacy and security, etc.

**Question 7: There is an unofficial announcement of the 2b program. We believe we will follow up our direct to phase 2 project with a 2b application if it is available. Should we do this concurrently with this application or will there be a formal process later?**

*Answer 7:* The Phase IIB program is offered through separate grant funding opportunity announcements with their own application process. The Phase IIB Bridge program (RFA-HL-16-009) would likely be the relevant opportunity for this project (<http://1.usa.gov/1q9yTyP>) – the next due date is June 19, 2017. To be responsive to the Phase IIB program at NHLBI, the technology should require eventual Federal regulatory approval/clearance.

**Question 8: Can we expand upon what we did in phase 2a by adding additional services or is 2b limited to what was approved in 2a? For example, adding additional software services to our existing software such as weight loss counseling or cardiovascular counseling.**

*Answer 8:* The research aims proposed in a Phase IIB application should be a continuation of the work proposed in Phase II. This may be interpreted differently for different types of projects, but one consideration is whether the Phase IIB aims are furthering the development of the same product. A change in indication or focus area may be more appropriate for a new Phase I application.

**Question 9: Should we reference our intention of utilizing the 2b program in this application?**

*Answer 9:* Intention to use the Phase IIB program could be included in the proposal as part of the overall strategy for achieving commercialization.

**Question 10: Upon completing phase 2(a and/or 2b) is the application for phase 3 directly to the HHS agencies (HRSA or CMS) we wish to ultimately serve or is phase 3 based on our intention to continue working with and selling to individual health centers?**

*Answer 10:* There is no formal Phase 3 application or proposal process. Phase 3 describes the company's commercialization stage, so yes, it would be more based on working with and selling to individual health centers or other customers.

**Question 11: Section 3.2 of the Solicitation lists three different versions of R/R&D. Which of the three options does NHLBI prefer for this CART SBIR Contract?**

*Research or Research and Development (R/R&D).*

- 1. A systematic, intensive study directed toward greater knowledge or understanding of the subject studied;*

2. *A systematic study directed specifically toward applying new knowledge to meet a recognized need; or*
3. *A systematic application of knowledge toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements.*

*Answer 11:* Any activity that fits within one of the three categories listed.

**Question 12:** Does NHLBI need us to create a study where a control group is used to distinguish the product's validity or can we utilize the number 3 "systematic application" option to meet the measures we are trying to meet?

*Answer 12:* Since the CART demonstration project or pilot is not an intervention study, a control group is not necessary.

**Question 13:** If we utilize option 3 "systematic application" does that mean we are still a clinical trial (a study) or is that defined as different from a traditional study?

*Answer 13:* The CART demonstration or pilot project does not meet the definition of a NIH clinical trial (see definitions: <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-15-015.html>)

**Question 14:** Do we need to identify the participating Community Health Centers prior to submitting our proposal or can we show the Center that is currently under contract and identify the types of other centers we will be approaching?

*Answer 14:* It is unclear how the Community Health Centers will interact with the CART homes but you may describe if or how your technology used in a CART home interacts with a Center.

**Question 15:** Do we need to have a university directly involved in the research or can an affiliation and consultation from experienced university personnel suffice?

*Answer 15:* This is left to the discretion of the PI. The PI of the contract will interact with the PI of the CART grant as well.

**Question 16:** Is a letter of support from our supporting universities sufficient for documenting involvement with our university partners? (the same question applies for health centers... is a letter of support sufficient for documenting their involvement as well?)

*Answer 16:* If someone is listed as a consultant, a letter of support is helpful.

**Question 17:** Do we need approval from OHRP (for human subjects) prior to submitting our contract proposal or can we apply and go through the process following submission? There is an expedited process that it appears we qualify for, but they do not specify how quickly a decision is made by OHRP regarding permission to perform a study that involves human subjects.

*Answer 17:* You do not need IRB approval for the pilot study in a CART home at the time of application submission but will need the approval prior to using any funds for the pilot project, which includes human subject.

**Question 18:** Page 106-7 states that we must be willing to participate in CART committees. Do we need to allot travel funds for this? If so, how many trips and days do we need to plan to attend over a 2 year time period?

*Answer 18:* Yes. The budget should reflect 2 trips per year with 2 nights for each trip. The interactions for the committee meetings are by phone but travel for other meeting may be needed.

**Question 19:** In the stage one study, we have hired our own nurses and were paid to conduct the work within the clinic. In phase two are we required to hire the nurses ourselves or can we reimburse the Community Health Center for the salaries of the nurses conducting the study? If we reimburse the CHC, does that mean they are contractors and must be part of the 50% of funds used for contractors. Another option can we have dual responsibilities for the nurses? In this scenario, the CHC is part employer of the nurses and we are the other part.

*Answer 19:* It is up to your organization to decide how to propose performing the work for Phase II. You can have a nurse included as a PI.

The following is included as a limitation in the solicitation.

*For Phase I, a minimum of two-thirds of the research or analytical effort must be performed by the awardee. For Phase II, a minimum of one-half of the research or analytical effort must be performed by the awardee. The percentage of work will be measured by total contract costs.*

**Question 20:** Is the small business supposed to bring a clinical partner on board as a sub-awardee for the proposed validation and/or outcome study? Or small business is only providing technologies and "proposing" studies that can be utilized by CART clinical team at CART homes?

*Answer 20:* The SBIR investigator should propose a team that can address both clinical and technical items in the proposal. The SBIR investigator(s) will be working work with the PI of the CART grant.

*National Heart, Lung, and Blood Institute (NHLBI),*

**Topic 099: Inhalational 5A Apolipoprotein A-I Mimetic Peptide for the Treatment of Asthma (SBIR-TT)**

**Question 1:** Does the SBIR Program allow for small business to be backed by VCs.

*Answer 1:* Yes it is acceptable for a small business to be backed by the VC, however, the company cannot be majority-owned by a single VC but having VC funding is fine. If they are majority owned by multiple VCs, they are eligible but required to submit an SBIR Application VCOC Certification at the time of their proposal submission – information is located on page 18 of the PHS2017-1 solicitation (<http://bit.ly/PHS2017-1>).

**Question 2:** Our intention is to work on this project collaboratively with the original inventors. We often times get such arrangement accomplished via retaining the inventors as paid consultants or have a % of funding as a sub-contract (in case that the inventors are employees of a contractor, not directly NIH). Would this be a feasible arrangement in this case?

*Answer 2:* NHLBI collaborators should not be included in the budget. It is appropriate to mention in your proposal that you will communicate with NHLBI as necessary in performance of the stated work,

however, no formal partnership agreement with specific collaborators is allowable as part of their budget.

**Question 3: Is it possible to obtain initial experimental details from NHLBI investigators as prior data for the proposal?**

*Answer 3:* Experimental details can be found in the following publication:

Yao X, Dai C, Fredriksson K, Dagur PK, McCoy JP, Qu X, Yu ZX, Keeran KJ, Zywicke GJ, Amar MJ, Remaley AT, Levine SJ. 5A, an apolipoprotein A-I mimetic peptide, attenuates the induction of house dust mite-induced asthma. *J Immunol* 2011;186:576-583.

<http://www.jimmunol.org/content/186/1/576.long>

**Question 4: What would an ideal animal study look like (to be performed in phase I) through NHLBI's viewpoint?**

*Answer 4:* Experimental details can be found in the following publication:

Yao X, Dai C, Fredriksson K, Dagur PK, McCoy JP, Qu X, Yu ZX, Keeran KJ, Zywicke GJ, Amar MJ, Remaley AT, Levine SJ. 5A, an apolipoprotein A-I mimetic peptide, attenuates the induction of house dust mite-induced asthma. *J Immunol* 2011;186:576-

583. <http://www.jimmunol.org/content/186/1/576.long>

**Question 5: Out of the 20 listed peptides in NHLBI patent, how many need to be utilized as initial sample space for screening?**

*Answer 5:* Only the 5A apoA-I mimetic peptide will be utilized.

**Question 6: It is our understanding that, we will synthesize a certain quantity of each of the peptide candidates and supply a purified/formulation samples to NHLBI for animal testing – please confirm?**

*Answer 6:* Only the 5A apoA-I mimetic peptide will be synthesized in sufficient quantities for the comparability studies and dose ranging animal studies as outlined in Phase I Activities and Expected Deliverables. The offeror will perform the dose ranging animal studies to reproduce the experiments previously performed by the NHLBI investigators with the aim of showing that the 5A apoA-I mimetic peptide significantly suppresses house dust mite-induced inflammation.

**Question 7: Will all the animal testing work be performed by NIH or THL should take lead on those and retain a third party provider of such service. We have worked with Charles River before.**

*Answer 7:* The offeror will perform the dose ranging animal studies outlined in Phase I Activities and Expected Deliverables.

**Question 8: Would NHLBI share their peptide synthesis, formulation and testing protocols with us?**

*Answer 8:* Yes. The 5A apoA-I mimetic peptide was generated using standard methods for peptide synthesis.

**Question 9: Would there be personnel from NHLBI identified as collaborators that we can list in our application? (paid or un-paid)**

*Answer 9:* Similar to the first response above, NHLBI collaborators should not be included in the budget. It is appropriate to mention in your proposal that you will communicate with NHLBI as necessary in performance of the stated work, however, no formal partnership agreement with specific collaborators is allowable as part of their budget.

*National Institute of Allergy and Infectious Diseases (NIAID),*

**Topic 040: Effective Targeted Delivery of RNA-based Vaccines and Therapeutics**

**Question 1: With respect to the demonstration of targeted delivery of RNA therapeutics, can a non-HIV model system be used for Phase 1? Or, does an HIV model system need to be used for Phase 1?**

*Answer 1:* NIAID is primarily interested in HIV, SHIV, or SIV model systems for Phase 1.

**Question 2: Would a proposal focused on using double stranded RNA to adjuvant HIV antigens be considered responsive to Topic 040?**

*Answer 2:* No, the double stranded RNA approach to adjuvant HIV antigens would not be considered responsive to this Topic. The idea of the solicitation is to use mRNA that encodes and expresses the target HIV antigen for induction of immune responses after uptake by antigen-presenting cells.

*National Institute of Allergy and Infectious Diseases (NIAID),*

**Topic 043: Adjuvant Development**

**Question 1: We are using a specific pathogen as an example to show protection against it using our novel adjuvant. However, the instructions clearly state that this proposal should not be about funding a final specific product. How can safety and efficacy of the adjuvant be shown, if we do not use a specific pathogen?**

*Answer 1:* This Topic allows “...lead adjuvant: vaccine or adjuvant/immunotherapeutic combination to evaluate immunogenicity, protective efficacy and immune mechanisms of protection.” This includes RSV and non-HIV infectious pathogens.

The following statement in the Topic, “*The adjuvant products supported by this program must be studied and further developed toward human licensure with currently licensed or new investigational vaccines, and may not be developed as stand-alone agents,*” is intended to exclude the development of adjuvants alone as stand-alone therapeutic modulators of immune responses.

This Topic is intended to support the development of a final adjuvant; vaccine formulation against a specific pathogen as a final product. “...support the screening for new adjuvant candidates, their characterization and early-stage optimization.”

*National Institute of Allergy and Infectious Diseases (NIAID),*

**Topic 045: Database Resources Integration**

**Question 1: Can you give us a sense of the research scenarios and research objectives that the proposed system is required to address?**

*Answer 1:* Here are a couple of examples of research scenarios:

- A unified UI to allow researchers to query genes, cytokines, epitopes, or immune cell populations across these databases without having to go to each database to perform these queries in silos.
- A unified UI to retrieve datasets of interest from a database, integrate the datasets with information from another database, and transform the datasets to into ones that can be visualized or analyzed by tools from other resources.

**Question 2: What kind of capabilities are envisioned for this project that are not already fulfilled by existing data retrieval and analysis systems? How do the objectives of ImmuneSpace in particular differ from the Phase I objectives?**

*Answer 2:* ImmuneSpace does not have a UI for cross-database queries and analyses.

**Question 3: Will the data and analysis tools deployed under the different referenced portals be made available to awardees? We have been able to download data from ImmPort, IEDB, and ImmGen (through GEO), but not from ImmuneSpace or ITN TrialShare. What steps are necessary to obtain access?**

*Answer 3:* Yes, these tools are open-source tools. The challenge is to make them interoperable with other resources. As long as you're registered users, you should be able to access data from ImmuneSpace or ITN TrialShare that are publicly shared.

**Question 4: In reference to a Phase I objective that mentions "linking of data, information and tools between these databases based on inferred relationships", what type of relationships are expected to have to be inferred? Can you give us any examples of such inferences?**

*Answer 4:* An example of inferred relationships could be that a study shared in ImmPort analyzed gene X, and ImmGen has some information about the expression of gene X in cells and tissues in mouse models.

**Question 5: Are these transformation requirements readily available – and if so, if they can be shared prior to submitting our proposal?**

*Answer 5:* There is no specific data transformation requirement readily available. Gathering and implementing specific data transformation requirements to facilitate integrated analyses are expected activities of the offerors.

*National Institute of Allergy and Infectious Diseases (NIAID),*

**Topic 047: Development of Microbiome-based Products for Infectious Diseases**

**Question 1: Does the scope of the solicitation include microbiome-derived recombinant protein therapeutics?**

*Answer 1:* Yes.

**Question 2: Does the scope include inflammatory disease or is it limited to infectious disease?**

*Answer 2:* The scope of the Topic is limited to infectious diseases.

**Question 3: The list of Phase I activities includes a bullet point "Development of methods and analytical technologies to support chemistry, manufacturing and control information, such as formulation, encapsulation, and lyophilization." Can the entirety of the contract be focused on the activity of developing the manufacturing technology?**

*Answer 3:* The solicitation does encourage novel manufacturing methodologies, however a sole focus on manufacturing would represent a narrow interpretation of the solicitation. Nevertheless, this may be appropriate if the product is at a very late stage and fully supported by product-specific assays for characterization (i.e. identity, purity, potency, etc). Note: carefully review the content of the solicitation for information regarding the technical objectives, instructions regarding proposal submission, and a description of the evaluation criteria and award process; and exercise your professional judgment to see if you have appropriate justification to support your proposal.

*National Institute of Drug Abuse (NIDA),*

**Topic 161: Virtual Reality Tools to Enhance Evidence Based Treatment of Substance Use Disorders**

**Question 1: For Phase I, do most offerors prepare and submit milestones which they would be completing for Phase II?**

*Answer 1:* No, that is not necessary.

**Question 2: If project goals state "complete initial development and proof of concept" yet deliverables include patient testing, how extensive of a clinical trial is expected in Phase I versus an SBIR with Phase I and II submitted as either Fast Track or Direct to Phase II?**

*Answer 2:* Phase I should include proof of concept, small number of subjects and preliminary data. The goal of this phase is not to include all subjects but rather to determine whether this process works before moving to Phase II.

**Question 3: The solicitation mentions Cognitive Behavioral Therapy and 12-step programs as treatments that may lend themselves to Virtual Reality (VR) adaptation. These types of treatments are generally geared toward alcohol or illicit drug users. Is alcohol treatment (since this is a NIDA topic rather than an NIAAA topic) out of scope? Is smoking cessation out of scope?**

*Answer 3:* Smoking is relevant. Alcohol is out of scope.

**Question 4: Are you interested in quantifying patient reaction to Virtual Reality (VR) therapy using physiological measures such as heart rate monitoring with a smartwatch? Or are sensors of any kind out of scope or seen as too intrusive?**

*Answer 4:* Smartwatches can be used as well as heart sensors.

**Question 5: Is there any particular Virtual Reality (VR) platform that you are most interested in?**

*Answer 5:* No.

**Question 6: How involved in the Virtual Reality (VR) therapy should the clinician remain? For example, if the participant is doing well, the cues in the virtual environment could become more salient so that the patient could progress. Should this be done automatically or semi-automatically, or only at the command of the clinician?**

*Answer 6:* VR therapy should be done per clinician request. It would be important to obtain patient input as well.

*CDC, National Center for Chronic Disease Prevention and Health Promotion (NCDDPHP),*

**Topic 038: Improve Contextual Awareness using Social Network Data**

**Question 1: The guidance indicates that part of the process is building a cohort around a given chronic indicator (e.g., Tobacco use). What is considered a chronic condition varies across fields? Can you let me know if CDC considers HIV to be a chronic disease (with indicators such as testing, participation in care, etc.), whether it falls within the scope and intent of this announcement, and whether more traditional chronic disease/chronic indicators would be looked upon more favorably?**

*Answer 1:* The scope and intent of this topic is aimed at addressing the mission and priorities of NCCDPHP. The mission of NCCDPHP is to help people and communities prevent chronic disease and promote health and wellness for all. The Center's programs cover a wide variety of chronic diseases and conditions, some of which are clinical in nature:

- +Cancer
- +Community Health
- +Diabetes
- +Heart Disease and Stroke
- +Nutrition, Physical Activity, and Obesity
- +Oral Health
- +Population Health
- +Reproductive Health
- +Smoking and Tobacco Use

The focus of the announcement is on NCCDPHP priority chronic diseases and conditions; however, we do note that there can be an intersection between these NCCDPHP priority chronic diseases and conditions and their risk factors and other conditions such as HIV. This link provides more information on the mission and priorities of the Center:

<http://www.cdc.gov/chronicdisease/resources/publications/aag/nccdphp.htm>.

*CDC, National Center for Emerging Zoonotic and Infectious Diseases (NCEZID),*

**Topic 014: Multiplexed Digital Counting of Single Molecules for Advanced Molecular Diagnosis**

**Question 1: In reviewing the proposals, will preference be given to a platform that is already developed for another field (e.g., such as cancer) and is being adapted to the targets described in the proposal over a platform that requires further development of the platform itself in addition to the development of the new assays on that platform?**

*Answer 1:* For a six month SBIR phase I proposal, it appears unrealistic to expect to be able to do platform development and then the assay development. The emphasis here is on developing the assays on existing platforms.