

Department of Veterans Affairs
Veterans Health Administration
Washington, DC

Program Announcement
Office of Academic Affiliations
June 6, 2016

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**BIG DATA SCIENTIST TRAINING ENCHANCEMENT PROGRAM (BD-STEP):
TO PROVIDE TRAINING AND RESEARCH OPPORTUNITIES TO ENABLE NEXT-
GENERATION PATIENT-CENTERED OUTCOMES RESEARCH**

1. PURPOSE

a. Program Announcement. The purpose of this program announcement is to provide information, policies, and application procedures to Department of Veterans Affairs (VA) facilities that currently participate as a funded site for the Big Data Scientist Training Enhancement Program (BD-STEP) and wish to continue to participate as program elements change. Each site may appoint up to 2 fellows each year. The goal of the program is to train a new cadre of scientists that have the skill sets to manipulate and analyze large-scale, multi-element patient data sets and to develop new algorithms and models complementing existing methodologies in patient-centered outcomes research. Recognizing the rapid increase of data generated in the clinical setting and its potential to impact patient care, this program seeks to leverage the VA data systems to support clinically-relevant, year-long training and research opportunities for junior-level scientists/engineers, in collaboration with VA clinician scientists. Approved sites will provide graduate level training in clinical, health services and/or data science research for fellows who have demonstrated experience in bioinformatics, modeling, or management of large data sets. Each site will provide an overview of how they understand and apply big data in their clinical research setting, including the ethical and legal implications, an introduction to how data are generated in the course of providing clinical care, how those data are aggregated at local, regional, and national levels, and will allow the BD-STEP fellows to participate in a research project involving such data. “Big data” is a term to describe data sets so large or complex that traditional data processing strategies are inadequate. Junior-level science/engineering fellows from accredited programs in relevant disciplines (to include engineering, chemistry, computer science, mathematics, and physics) will be identified by the BD-STEP sites in collaboration with the National Cancer Institute's (NCI's) Center for Strategic Initiatives (CSSI). Collaborative efforts between fellows and VA clinician scientists will focus on enhanced utilization and application of VA informatics systems and data to positively impact clinical care for Veterans. As advanced technologies (in fields such as genomics, proteomics, targeted imaging, and nano-enabled interventions) are incorporated into healthcare practices, a long-term goal of the program is to build awareness of how these technologies may be integrated into large-scale clinical environments.

b. Eligibility to Apply.

VA sites currently participating in the Big Data Scientist Training Enhancement Program (Boston, Buffalo, Durham, Houston, Palo Alto, and Seattle) who wish to continue participation in the program must respond to this RFP. Each site must confirm their ability to continue to

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fulfill the requirements previously required of the RFP, to include having on-site expertise in both 1) clinical research in oncology and/or hematology and 2) big data, bioinformatics, or health services research that have a demonstrated commitment to provide advanced training to fellows. Appropriate infrastructure and local leadership support for the initiative, as well as the commitment for the clinician scientists to serve as mentors for the fellows must be re-established at the time of submitting their letter of intent to continue with this program.

For all sites interested in continuing with BD-STEP, please see instructions in Attachment A.

2. BACKGROUND

Recent technological advances have been made to automate clinical standards of care, affecting the way providers deliver care to patients. However, it is important to understand that while current man-made machine interfaces may be the tool we use to predict the best course of care, human intervention is necessary to provide context and to avoid inappropriately treating patients due to a prescribed “one size fits all” care model. Our current set of informatics tools is able to present providers with infinite possibilities for treatment. When conceptualizing how to administer true “patient-centered care” we need to focus on harnessing the clinical information and data to actually improve health outcomes.

To address these future challenges and to better understand how to administer a “patient-centered” approach to delivering healthcare, a pilot has been initiated with select VA medical centers (VAMCs) with interest in developing the infrastructure to educate and train providers and researchers on utilization of the VA databases and systems. The desired goal of further developing this program is to bring in new perspectives to analyzing the abundance of data available within VA to improve the quality of healthcare we provide our Veterans. In the long-term, enhanced utilization and application of VA data systems may result in fewer outpatient visits to the hospital, faster decisions for changing therapy, fewer hospitalizations, and improved, cost-effective health outcomes.

In alignment with the goals of the pilot, the NCI's CSSI has as its mission the creation and unique implementation of exploratory programs focused on the development and integration of advanced technologies, trans-disciplinary approaches, infrastructures, and standards to accelerate the creation of data, knowledge, and tools to empower the entire cancer research continuum for patient benefits. The Center has historically initiated trans-disciplinary programs supporting the application of advanced technologies and physical science approaches to clinically-relevant research, with emphasis on supporting the development of trainees. As the VA pilots are developed into a full program, CSSI is well-qualified to provide input and to identify fellows with the appropriate background to apply clinical, big data/bioinformatics, and health services research training at VA facilities to develop skill sets to perform next-generation patient-centered outcomes research.

It is crucial for a fundamental shift to occur in the current methodologies we use to define and administer patient care. Improvements in any organization are often discovered by new talent and fresh perspectives. The establishment of this program will bring new expertise to the VA to help the organization advance clinical research efforts and improve patient-centered care

initiatives by utilizing VA's big data infrastructure. Employing new approaches in the application of big data in the clinical space, and using technology to improve healthcare, is an emerging market for healthcare reform and one in which VA is interested in exploring further with NCI.

3. PROGRAM EXPECTATIONS

a. Program Structure. Sites approved for the BD-STEP program shall have a training curriculum; appropriate facility infrastructure; expertise in clinical oncology and/or hematology research; expertise in big data/bioinformatics or health services research; dedicated clinician scientist mentors; qualified, supportive senior leadership; and be dedicated and qualified to support fellows. For this next phase of BD-STEP, subject to VA information security procedures, data resources that will be made available to the site directors and fellows include data from the following sources: operational data from the corporate data warehouse, cancer registry, Million Veterans Program, and Precision Oncology Program.

(1) Curriculum. The one-year curriculum will begin with a program kick-off meeting. This mandatory kick-off meeting will provide an overview and orientation of program expectations and goals and allow for all fellows, clinician scientist mentors, and program directors to meet. Each site shall develop a local experience for the fellow to include: an orientation to the VAMC; training in clinical data acquisition, access, and use, and the application of big data in the clinical setting, including ethical and legal considerations; exposure to the clinical setting of the fellow's research focus area; and training in the use of VA database systems. Training sites shall provide a basic overview in the following areas with an opportunity to pursue more intensive training: clinical trial design, medical decision making, and medical informatics. Opportunities for clinical observation experiences are encouraged. In addition, the curriculum will be supported by the national BD-STEP program to include educational content areas such as quality improvement methods, leadership skills, and other areas of significant interest to VHA for the fellows. Each VAMC is unique and should employ their specific clinical and research expertise. It is expected that the local experience encourage interprofessional activity. The proposed curriculum must be included in the application. The proposed curriculum should also ensure that each fellow engage in a minimum of one project suitable for publication in a peer-reviewed journal to further research in oncology/hematology, big data/bioinformatics and/or health services prior to the conclusion of their training. The specific focus of the research project will be determined collaboratively between the fellow, the VA clinician scientist mentor (described below) and the fellow's academic mentor. Working under IRB-approved protocols and with the guidance of the VA mentor, fellows will apply quantitative techniques (including data management, analysis, and modeling approaches) to selected VA data sets to address clinical research problems. The BD-STEP national program director will work in coordination with the NCI to monitor the progress and impact of the fellows on collaborative research projects with VA clinician scientists and the ability of the fellows to understand and apply appropriate clinical research guidelines to their VA research projects.

(2) Infrastructure. Sites must demonstrate continued commitment to foster a high quality learning environment and collaborative fellow experience that touches on research, education, and clinical delivery. Sites must provide a dedicated workspace and computer, with necessary word processing and data analysis software, and address a plan for facilitating VA appointments and computer/database access for fellows and, as needed, their primary academic mentor from their academic institution.

(3) Recruitment. NCI's CSSI will assist the BD-STEP sites in recruiting and proposing fellows from physical science, engineering, or related disciplines (to include engineering disciplines, chemistry, computer science, mathematics, and physics) with experience in bioinformatics and management of large data sets. BD-STEP sites will be responsible for selecting two fellows for the program year, to be endorsed by the BD-STEP advisory board and appointed by the Chief, Office of Academic Affairs. NCI's CSSI, the participating VA facilities, and the fellows and their VA mentors and academic mentors each have specific responsibilities for adhering to VA's rules for information security and privacy. Proposed fellows must comply with requirements to provide personal background information, undergo criminal and other background investigation, provide fingerprints and must demonstrate completion of all VA-required training in research safety, information security, privacy and related topics.

(4) Program Directors. Program directors must have demonstrated expertise in clinical and/or health services research, be experienced in administration of an academic program, and have demonstrated ability to effectively teach and mentor. The program director must have a track record of expertise, leadership, scholarship, and mentoring in issues related to oncology and/or hematology, big data clinical and health services research, and healthcare improvement. Directors are also expected to possess expertise in the practice of interprofessional health services research and education. If the program directors do not possess all of these traits, the program must demonstrate that the fellow will be exposed to a mentoring team that addresses the multifaceted training needs for this training experience. Program directors will be responsible for all facets of the training program, including assignment and coordination of mentoring teams, evaluation of fellows and the site-level program, curriculum, and all administrative issues (including fellow appointment, coordination with other BD-STEP sites, coordination with associated academic institutions, etc.). Program directors are expected to attend the kick-off meeting in October and actively participate in monthly calls with the BD-STEP community.

(5) VA Clinician Scientist Mentor. Designated clinician scientist mentors for the fellows must have demonstrated expertise in clinical and/or health services research, be qualified to serve as a VA Principal Investigator for the proposed research, and have demonstrated ability to effectively teach and mentor junior scientists. Mentors should have interest in advanced analytics/big data and be available to provide fellows with the exposure and training needed to understand the clinical environment. Clinician scientist mentors are expected to attend the kick-off meeting in September, reserve dedicated time for routine engagement with the fellow for mentoring sessions, and remain accessible for fellow support as needed. The

Program Director and the VA Clinician Scientist mentor roles may be fulfilled by the same person.

(6) Site Collaboration. The BD-STEP national program office will promote collaboration among the other BD-STEP sites. Collaboration shall include such issues as curriculum development; implementation and improvement; program evaluation; and communication with all of the program directors at the various training sites. Program directors are expected to actively participate and help foster such collaborations among BD-STEP sites.

(7) Academic Institution Collaboration. Program directors shall foster collaboration between the fellow's primary academic institution and the VA site. As fellows come from academic institutions, their academic mentors are expected to contribute to and collaborate on the training and research projects. To facilitate participation of the academic mentor, the program director shall encourage collaborative research and establish a regular meeting schedule. Additionally, as needed, program directors will facilitate the appointment of the academic mentor in a without compensation (WOC) appointment to the VAMC. The academic mentors are aware that they will need to provide required information to VA and engage in required training in research safety, information security, and privacy in order to receive VA WOC appointments. If warranted by their level of participation, academic mentors should be included in authorship of conference presentations and peer-reviewed publications resulting from the training program projects.

b. Program Implementation. Program implementation expectations include the following:

(1) Fellows. Fellows shall spend 5/6 or more of their time in VA training and research activities. The remaining time may be reserved for activities required by the fellow's primary academic institution. All fellows are expected to participate in monthly BD-STEP program calls to encourage collaboration amongst all fellows and sites.

(2) Program Directors. Program directors are responsible for site-level leadership of the training program and its implementation, including helping to identify primary mentors and mentoring teams. They will also facilitate fellow appointments, and if warranted, academic mentor WOC appointments, and computer/database access, and will coordinate among both BD-STEP sites and between the VA site and affiliated academic institutions. All program directors are highly encouraged to participate in monthly BD-STEP program calls to encourage collaboration with all fellows and sites.

(3) Primary VA Clinician Scientist Mentor. Primary mentors are responsible for developing individualized learning plans for fellows and are generally responsible for the overall coordination of an individual fellow's development plan. Primary mentors (if different from the program director) will work with the program director to deliver a high quality training experience. In many cases, primary mentors will lead a larger mentoring team that consists of secondary and/or content mentors (see additional mentors below) that serve to meet each individual fellow's overall training/career goals. Primary mentors (alone or in combination with a mentoring team) will provide assistance with clinical and health services research

methodology and content related to the fellow's project(s), as well as guidance in personal and professional development. Primary mentors are expected to provide daily guidance during the fellow's initial orientation and introduction to the VA and to be readily accessible to fellows for guidance/assistance as needed throughout the training program. Following initial orientation, mentors will meet regularly (e.g. weekly) with fellows to assess their progress, serve as role models, and provide constructive feedback and assistance in meeting each fellow's goals. At the start of the training program, primary mentors are expected to initiate discussions on authorship for all research outcomes (such as presentations and publications) from the training program project. Primary mentors, in collaboration with the program directors, are expected to participate in formative and summative evaluation of fellows and the training program. All clinician scientist mentors are expected to attend the kick-off meeting and participate in monthly BD-STEP program calls to encourage collaboration among all fellows and sites.

(4) Additional Mentors / Mentoring Teams. Given the complexity of education planning for fellows, several mentors are often needed. To maintain collaborations with the fellow's primary academic institution, their academic mentor will continue to serve in an advisory capacity. Additional mentors may also be included as part of a larger mentoring team to address specific training needs (i.e. epidemiology, biostatistics, medical records, etc.). These additional mentors may provide assistance with research methodology and content related to each fellow's project(s) or guidance in personal and professional development. Additional mentors differ from primary mentors in that they are not responsible for the overall coordination of the training program. These individuals are expected to meet regularly (e.g., weekly, biweekly, or monthly) with the fellows to assess their progress, serve as role models, and provide constructive feedback and assistance in meeting each fellow's goals. Mentors are expected to participate in formative and summative evaluation of fellows and the training program under the direction of the primary mentor and/or program director. Where specific expertise is needed, mentorship may come from mentors at other VA institutions, individuals from VA program offices, faculty from academic affiliates, or individuals from offices within the National Institutes of Health (NIH). BD-STEP sites should be willing to participate in such collaborative cross-institution mentorship where feasible.

(5) Recruitment. As requested, the BD-STEP national program office, in coordination with the NCI, may convene informational sessions with each of the BD-STEP site locations and local academic institutions prior to soliciting fellow applications. The selection of the fellows will be made by the BD-STEP sites, to be endorsed by the BD-STEP advisory council. The fellows will begin a one-year program beginning October 2016. Although the program is generally for one year, programs may request approval for a second year for fellows with exceptional accomplishments in order to complete research projects that make substantial contributions to the VA.

(6) Project. All fellows will participate in at least one substantial research or healthcare improvement project, suitable for publication in a peer-reviewed journal, to which they make a substantive, independent, and identifiable contribution. The project should leverage VA data systems and represent a new research direction, not an incremental continuation of

current research at the VA site. The topic of the project should be relevant to improving Veteran's health, although VA medical facilities do not necessarily have to be the sole sites of the research. The projects should be identified and selected collaboratively by the clinician scientist mentors, fellows, and the academic mentor from the fellow's primary academic institution.

(7) Kick-off BD-STEP Meeting. At the beginning of this training program, fellows, program directors, and VA clinician scientist mentors will convene for a kick-off meeting to launch this program. Program expectations, project proposals, and a VA overview will be provided during this program, with guest speakers invited to speak with the participants on topics such as the future application of big data in the advancement of clinical care outcomes. The goal of this meeting is to establish the BD-STEP community to help overcome barriers/hurdles encountered during the duration of the program. This meeting will be co-sponsored and coordinated with the NCI's CSSI.

(8) Annual BD-STEP Meeting. At the conclusion of the training program, fellows, program directors, and VA mentors will convene to present outcomes to date, training recommendations, and barriers/hurdles encountered. The goal of the meeting will be to share successful training and implementation strategies and identify areas for new collaboration and coordination among sites. This meeting will be co-sponsored and coordinated with the NCI's CSSI.

c. Post-program follow-up and tracking. The BD-STEP national program director will work with all sites to monitor the results of an assessment of fellows' satisfaction with the program, their future employment, recruitment to VA, success in publishing in peer-reviewed journals to further patient-centered outcomes research, awards, and continued collaborative work in the field of big data clinical and health services research. Such tracking information will be considered in evaluation of participating sites at the time of future program re-competition.

4. POLICIES

a. Governance. The Office of Academic Affiliations (OAA) maintains overall responsibility for the administration of BD-STEP. OAA will work in collaboration with the Office of Research and Development and the Employee Education System to provide the expertise and oversight for the training intent to be met. This announcement is a collaborative effort with the National Cancer Institute's CSSI.

b. Program approval. The training sites will be approved until re-competition is announced by OAA. VHA's BD-STEP Program Director in coordination with OAA and the NCI's CSSI will monitor program implementation. Approval may be withdrawn from sites that have been unable to complete fellows' VA appointments within 2 months after fellows have been matched to VA sites. Approval will be withdrawn from sites that are identified to no longer possess the capacity to provide a high quality training program, actively participate in the community calls, or kick-off and annual meetings. Should a site's participation be terminated, fellows participating at that

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site will be allowed to complete the program at another participating site, if a suitable alternative can be identified.

c. Fellow Nomination Criteria. BD-STEP sites, with the final approval from the Chief, Office of Academic Affiliations, will have the responsibility for fellow identification and proposed recommendation for selection to the BD-STEP advisory council.

The program seeks junior-level scientists/engineers (fellows) from NIH-supported institutions to participate in collaborative training and research experiences at selected VAMC BD-STEP sites. Fellows from physical science, engineering, and related disciplines (to include engineering disciplines, chemistry, computer science, mathematics, and physics) with experience in bioinformatics, modeling, or management of large data sets will be considered.

Prior to participation in this program, prospective fellows shall:

- (1) Have earned a PhD* in a physical science, engineering, or related discipline (to include chemistry, physics, engineering disciplines, computer science, and mathematics) from an accredited program. MD/PhD graduates with backgrounds in physical science, engineering, or related disciplines are also welcomed to apply.
- (2) Have experience in bioinformatics, modeling, or management of large data sets and demonstrate interest big data clinical and health services research and healthcare improvement.
- (3) Commitment of his/her academic advisor to participate and stay engaged in BD-STEP activities.

*Pre-doctoral students interested in participating in this program on a without compensation (WOC) appointment are encouraged to apply.

d. Fellow Appointment and Compensation

(a) Appointment authority. Appointments will be made under 38 U.S.C. 7405 (a) (1) (D)

- (1) Fellows appointed for more than one year are eligible for health and life insurance benefits.
- (2) PAID Codes. The PAID codes will be provided in the memoranda notifying facilities of their selection as a fellowship site. Appointments will be terminated at the end of the specified training period.

(b) Stipend. Stipend rates will be determined by OAA, depending on the discipline and previous education of the fellow. Rates are reviewed biennially against national norms for the discipline. Current rates are listed on the OAA intranet web site at

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<http://vaww.va.gov/oa> (then “OAA Support Center”, then “Facility Locality Based Per Annum Stipend Rates”). OAA reserves the right to use a different mechanism to determine fellow pay. For more information about health disciplines not listed in the table, contact OAA.

(c) Stipend Supplementation. Fellows shall not receive additional revenue from any source in compensation for their duties in this program.

(d) Participant Eligibility

- 1) At least a doctoral degree (or demonstrate that all requirements for such a degree have been completed) from an accredited educational institution.
- 2) Meet all eligibility criteria for hire within a VA facility.
- 3) Be a U.S. citizen.

(e) Educational Detail. Fellows may be detailed to other educational institutions without loss of pay, but under no circumstances may the total time spent in non-VA institutions exceed one sixth of the total hours a fellow is in a pay and training status with VA. Should a program wish to have fellows conduct activities at non-VA sites, an appropriate affiliation agreement must be completed and prior written approval from Office of Academic Affiliations must be obtained.

e. VACO Support.

(1) OAA support. OAA will provide \$40,000 to each BD-STEP site to support program administration, curriculum development and implementation, travel to annual BD-STEP meeting, and research activities.

(2) Other VACO support. Overall programmatic administration at VACO will be administered by the BD-STEP program director. Standardized national curriculum will be developed and shared with sites at the beginning of the year; just-in-time curriculum modules will be developed and shared throughout the year, for sites to support their fellows’ participation.

f. Liability. Fellows will be protected from personal liability while providing professional services as a fellow at a VA facility under the Federal Employees Liability Reform and Tort Compensation Act, 28 U.S.C. 2679(b)-(d). Should a program wish to have fellows conduct activities at non-VA sites, prior written approval from OAA must be obtained.

g. Expenses. Except as detailed above, expenses connected to the fellow’s recruitment and educational activities are not funded under this program. Transportation to the VA facility and housing arrangements are the sole responsibility of the selected fellows.

h. Service Obligation. There is no service obligation after completion of the training program. However, fellows are encouraged to seek VA employment upon training program completion.

i. Identification of Fellow Status.

(1) Fellows shall notify VHA's Office of Research Development (ORD) as required of any publication or presentation using procedures for electronic notification **through the ORD PubTracker Website: <http://vaww.pubtracker.research.va.gov>**.

(2) Fellows shall also identify their VA affiliation in all reports and presentations during the training program and after the training program if the report or presentation is related to activities conducted during the training program. Failure to do so while in the training program may result in termination of the fellow.

k. Training Plan

Each fellow shall, in conjunction with the program director, VA mentoring team, and academic mentor, develop a learning plan as soon as practical on entering the program. The plan shall address the fellow's long-term goals and identify the local resources to be used. This plan shall be revisited periodically in order to serve as a meaningful dynamic document assisting in the fellow's development.

l. Site Commitment to National Program

Each site must be willing to participate in and substantially contribute to regular, nationally coordinated administrative meetings and conference calls. Each site will be required to support training elements of the program as directed by the BD-STEP director. In addition to the kick-off and annual BD-STEP meeting, each site must also be willing to participate in a substantial and ongoing way to the development and deployment of nationally coordinated training educational activities to include regular teleconferences. Such coordination of the training program is expected to be conducted by a host program director (selected on a rotational basis) by the BD-STEP director.

5. FACILITY ELIGIBILITY CRITERIA

The sponsoring VA facility must actively conduct research in clinical oncology and/or hematology, big data/bioinformatics, and health services.

6. SELECTION CRITERIA

a. Site Characteristics. Site selection criteria are unchanged from the previous RFP released in May 2015. The facility must be committed to continue to provide evidence of committed leadership, time, and personnel to support a culture of excellence in big data clinical and health services research, healthcare improvement, education, clinical care, and administration. Sites must be committed to support fellows and their clinician scientist mentors. Sites must continue to support the following criteria:

- (1) Facility commitment to build and sustain an outstanding learning environment.
- (2) Strong leadership by the program directors, mentoring teams, and associated faculty – specifically with regards to clinical and health services research.

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- (3) Outstanding research in oncology and/or hematology, interprofessional educational opportunities, and clinical learning opportunities at the site. Interest in advanced analytics/big data.
- (4) Past experience providing high quality mentoring for junior-level scientists.
- (5) Commitment to sponsor a fellow at the site, including the ability to accommodate the fellow with a work space, computer terminal, and other basic logistics.
- (6) Commitment to develop a comprehensive training curriculum covering the VA and its healthcare systems, best practices in use of clinical data, and use of VA database systems.
- (7) Commitment to develop individualized learning programs with fellows.
- (8) Evidence of a strong administrative infrastructure to support a fellow program, including evidence of successful VA appointments and computer/database access for fellows.
- (9) Past experience supporting collaborations outside VHA, including collaborations with other government agencies and academic institutions.
- (10) Commitment to be an active participant in building a strong, cohesive nationwide training program.
- (11) Evidence of sound evaluation strategies for programmatic and individual evaluation.
- (12) Willingness to approve and support official travel as described in this document for program directors, clinician scientist mentors, and the fellows to attend at least the Kick Off Meeting and the Annual Meeting, so long as consistent with VA travel policies at the time.

b. Site Applications. The facility must submit the information requested in Attachment A of this RFP.

7. REVIEW PROCESS

a. Review committee. An ad hoc, interprofessional review committee consisting of a representative from the Office of Academic Affiliations, Office of Research and Development, Employee Education System, and the NCI's CSSI will review and assess each site's continued commitment to this program.

b. Scoring of Applications. Responses to this RFP must reassert continued commitment to the goals of this program, and demonstration of ability to meet program requirements. These requirements include the following areas:

<p><u>Leadership</u> to build and sustain an outstanding learning environment; evidence of a strong administrative infrastructure, including facility and</p>

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<p>program director capabilities and commitments. Evidence of expertise in clinical oncology and/or hematology research and big data, bioinformatics and/or health services research.</p>
<p><u>Curriculum</u> that describes program level learning objectives and instructional strategies for accomplishing those objectives. Description of local level instruction and workplace learning activities proposed to accomplish the BD-STEP mission, including facets related to VAMC orientation, clinical and health services research, and VA database systems. Evidence of innovative approaches to collaborative learning in a healthcare environment. Opportunities to contribute expertise and/or educational programming for the coordinated national BD-STEP.</p>
<p><u>Learning Environment</u> that has capacity to fulfill the proposed curriculum, including faculty mentorship, teaching ability, dedicated mentoring time, interprofessional collaboration, and other features necessary to facilitate training and research opportunities in big data clinical and health services research.</p>
<p><u>Research Environment</u> that allows the fellows to be immersed in a robust VA environment engaging in research, clinical and education initiatives, policy, program evaluation, and implementation of clinically-relevant, projects and activities with potential for healthcare improvement. Demonstration that the fellows will be surrounded by faculty and staff role models demonstrating partnership/stakeholder focused clinical and big data, bioinformatics and/or health services research in oncology and/or hematology.</p>
<p><u>Evaluation Plans</u> for formative and summative evaluations for the program's overall mission and the individual fellow's accomplishments of their learning objectives.</p>

c. Selecting council. Representatives from the Office of Academic Affiliations, Office of Research and Development, BD-STEP Program Director, and the NCI's CSSI will convene to review the nomination for fellows from each site and endorse the selected fellows, with final endorsement made by the Chief Academic Affiliations Officer. Fellows will be selected based on their prior achievements in the physical science, engineering, and related disciplines (to include engineering disciplines, chemistry, computer science, mathematics and physics) and demonstrated experience and success in bioinformatics, modeling, or management of large data sets. Fellows must have their academic mentor's endorsement and willingness to collaborate with BD-STEP sites on joint projects.

8. SCHEDULE

Schedule for VA sites who wish to continue participating in BD-STEP:

May 26, 2016	Office of Academic Affiliations (OAA) publishes request for applications
May 31 , 2016	Facilities to email their commitment to continue participating in BD-STEP to: Deborah.ludke@va.gov (see Attachment A)
June 24, 2016	Fellow application deadline
June 27, 2016	Sites to receive all qualified fellow applications for review and selection
July 1, 2016	Sites will complete their recommendation for selected fellows and send to the BD-STEP director
NLT July 8, 2016	BD-STEP council endorses fellow selections
July 8, 2016	OAA notifies fellows about their selection to the program
July 29, 2016	Sites to submit BD-STEP fellow nomination packets to VA Advanced Fellowship nomination portal
August 26, 2016	OAA to provide fellow appointment letters to sites
October 2016	BD-STEP kick-off meeting

9. CONTACT PERSONS

For information or questions related to the application process, please contact Deborah Ludke by email at Deborah.Ludke@va.gov or by phone at (562) 826-5492. For information or questions related to this training program, please contact Connie Lee by email at Connie.Lee@va.gov or by phone at (202) 461-4156.

10. APPLICATION INSTRUCTIONS

Site commitment letters shall be emailed to: Deborah.ludke@va.gov

Attachment A: Facility Director's Transmittal Letter

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ATTACHMENT A
APPLICATION INSTRUCTIONS FOR ALL SITES

1. DUE DATES

a. Commitment letters are due to Deborah Ludke by May 31, 2016 (via email to: Deborah.ludke@va.gov)

2. APPLICATION PACKET

a. Format:

- (1) Font size must be 11-point or larger.
- (2) Margins must be at least one inch all around.

b. VA Facility transmittal letter (signed by Designated Education Officer, ACOS/Research and Facility Director)

Commitment to continue participating in the program with the understanding that VA will pay for post-doctoral fellows. Commitment to uphold all prior commitments as designated in the application package from previous RFP. This program seeks junior- level scientists/engineers (fellows) from NIH-supported institutions to participate in collaborative training and research experiences at selected VAMC BD-STEP sites. Sites will confirm their previous commitment to expose fellows to the VA clinical environment and provide graduate level training in clinical and health services research, to include: an overview of how to understand and apply big data in the clinical setting, including the ethical and legal implications; an introduction to how data are generated in the course of clinical care and how those data are aggregated at local, regional, and national levels; exposure to the clinical setting of the fellow's research focus area; and training in the use of VA database systems. The continued commitment should include the ability to provide dedicated work space and computer terminals for each fellow and the ability to appoint and onboard fellows in a timely manner, and to facilitate WOC appointments for fellow's academic mentors, as needed.