

DEPARTMENT OF VETERANS AFFAIRS
Veterans Health Administration
Washington DC 20420
OFFICE OF RESEARCH AND DEVELOPMENT
Program Announcement for Request for Concept Paper for Service Directed Research

CONSORTIUM FOR HEALTHCARE INFORMATICS RESEARCH (CHIR)

1. **Purpose.** The Department of Veterans Affairs (VA) Office of Research and Development (ORD) solicits concept papers to establish a consortium of VA investigators to: a) develop the methods and tools for effective use of unstructured data such as narrative text in VA's electronic health records; and b) simultaneously, effectively apply the tools to address specific research questions.

2. **Background.** VA electronic health record databases contain approximately 20,000 unstructured fields, such as narrative text and laboratory reports, representing patient-specific information. The unstructured data comprise the majority of the health record, and may include: outpatient pharmacy records; laboratory reports and other text integration utilities; provider notes (e.g., nurses, physicians, physical therapists, and pharmacists); nuclear medicine and radiologic reports and electromagnetic images; family history; discharge summaries; physician orders; vital sign measurements; and medications administered. The data in these fields are rich and provide researchers an opportunity to characterize patients, their health status, and clinical encounters in meaningful detail for knowledge discovery toward improving care.

Current clinical and administrative uses of the electronic health record databases largely rely upon structured or coded data, a minority of the clinical information available in the patient record. Likewise, most research agendas are either limited to questions that can be addressed with structured data, or lack the richness that access to clinical text and other unstructured data could provide.

3. **Goals.** Funding will be provided to create a consortium of investigators from distinct VA medical centers who are committed to developing methods for applying both structured and unstructured data in VA electronic medical record databases to improve veteran health care. The successful concept paper will include a plan to improve text processing/mining and de-identification capabilities.

The consortium should: leverage existing informatics or text processing related resources; facilitate research collaboration among researchers at the various VAMCs toward specific objectives; coordinate with, as appropriate, VA offices, VHA offices, non-VA research institutions, and federal agencies; and coordinate application of accepted technical standards with national standards boards.

- a. The primary research objective is the development of methods and tools needed for an effective text processing based research program. Initially, database information must be prepared for research use (i.e., by extraction, cleansing, and reformatting text from VA-relevant databases). Text processing methodologic project areas requiring extensive collaboration and broadly validated methods for:
 - 1) Text de-identification - Standard tool(s) for de-identification of clinical text (i.e., as per HIPAA requirements);
 - 2) Text mining/Indexing - (a) Tagging codes in unstructured text and mapping to standardized terminology; (b) Coupling and decoupling dates and document architecture; (c) Establishing temporal relationship among textual elements; and

- (d) Appropriate standards for creating secure databases and research applications.
 - b. A secondary objective is to conduct research requiring text processing methods. Embedded projects may include but are not limited to knowledge discovery, clinical decision support, and/or human-computer interaction and interface.
- 4. **Concept paper.** Instructions for the concept paper are provided in Attachment A. The concept paper narrative (up to 5 pages) should include:
 - a. An organizational plan with descriptions of (1) overall administration; (2) coordination of projects and resources; (3) approach to facilitate effective collaboration; and (4) approach to ensure that all research products follow, or establish, standards that would allow national adoption if successful in pilot studies. Descriptions of the roles of the initial overall managing Principal Investigator (PI) and the steering and/or coordinating committee(s) also may be included.
 - b. Description of research projects to develop text processing methods and/ or tools. See 3.a.
 - c. Description of at least two embedded research projects requiring or involving text processing research methods. See 3.b.
 - d. Appendices:
 - 1) Diagram of the proposed relationship among PIs, projects, and other resources. No more than one page.
 - 2) Principal Investigator biosketches (VA Form 10-1313 5/6).
 - 3) Present an overview of all researchers in tabular form. No more than one page.
 - 4) Description of available resources. No more than two pages.
 - 5) Budget plan for years one and two. No more than one page.
 - 6) One-page letter of commitment from each named Principal Investigator.
- 5. **Investigators.** Investigators are expected to:
 - a. Build on available expertise and capacity and have skills in relevant areas such as: text processing, knowledge representation, clinical decision support, quality informatics, and human-computer interaction and interface;
 - b. Disseminate research findings;
 - c. Enhance VHA's capacity to support healthcare research through the development and maintenance of a collaborative program that will facilitate recruitment, training, and career development of much needed expertise;
 - d. Enhance VA national research capabilities and contributions in health services research by collaborating with HSR&D researchers and VA Central Office to enhance the HSR&D portfolio and its contributions to VHA; and
 - e. Develop and maintain substantive, mutually beneficial, collaborative partnerships with VA offices, VHA offices, other research institutions, and other federal agencies.
- 6. **Budget.** The maximum annual budget for the consortium is \$2,500,000. A potential start-up supplement of \$850,000 may be added to funding in year one for initial infrastructure and contractual expenses.
- 7. **Funding period.** The consortium is expected to be funded for four years, beginning Fiscal Year 2008, contingent on available funds.

8. **Review and selection criteria.** Evaluations will include an assessment of both past achievements and current research, and the relationship of these to research plans. More than one concept paper may be selected for submission of a full proposal. Reviewers will be instructed to weight their reviews according to the following criteria:
- a. Relevance to VA, HSR&D, and potential impact on veteran's health care research.
 - b. Quality of written application.
 - c. Demonstration of administrative and scientific collaboration among physically distant sites participating in the research consortium.
 - d. Appropriate plan for involvement with key stakeholders.
 - e. Availability of text/unstructured databases.
 - f. Existing achievements and potential to develop and deliver research results.
 - g. Collaboration and service: existing efforts and potential to collaborate with other VA researchers and centers.

Selection. Final selection of the concept paper will be made by the Director, HSR&D, based upon the reviewers' recommendation and upon the potential for making a substantial contribution to HSR&D and VHA.

11. **Submission Guidelines**

- a. **Concept papers.** Concept papers will be accepted until January 30, 2008.
- b. **Application Submission.** Attachment A contains instructions for concept paper submission. For delivery by **January 30, 2008**, submit two electronic copies in pdf format (one file): (1) by email attachment to merry.ward@va.gov; and (2) on CD by courier service to: Merry Ward, Ph.D., Department of Veterans Affairs; Health Services Research and Development Service (124-G); 810 Vermont Avenue, NW; Washington, DC 20420
- c. **Administrative Checklist.** Attachment B contains the checklist used by HSR&D to verify that the concept paper is complete. Applicants and ACOS/R&D offices are advised to review the concept and complete the checklist to ensure that the requested information is provided.

12. **Schedule.** The following award schedule is projected:

- a. Program announcement issued **December 15, 2007**.
- b. Concepts paper due **January 30, 2008**.
- c. Anticipated notification for submission of full proposal **February 2008**.
- d. Full proposals due **March 2008 (TBD)**.
- e. Anticipated scientific review meeting **March/April 2008 (TBD)**.
- f. Final notification letter mailed **March/April 2008 (TBD)**.
- g. Funding FY2008 **May 2008**.

13. **Inquiries.** Questions may be directed to Merry Ward, Ph.D., merry.ward@va.gov; (202) 254-0232.

ATTACHMENT A

INSTRUCTIONS FOR CONCEPT PAPERS

1. **General.** Concept papers should be complete and comprehensive. Concept papers will be considered incomplete and returned if they are illegible, fail to follow instructions, or if the material presented is insufficient to permit an adequate review. Submissions should follow the format outlined below and contain all pertinent information. Limit the narrative to five pages (5).

2. **Format.**

- a. **PDF format.** Use standard 8-1/2" by 11" page setup for pages other than form 10-1313-1. Type material single-spaced. The minimum size for computer-generated print is 11 point (approximately 1/8 inch in height for capital letters). There may be no more than six lines of text per vertical inch and page margins must be a minimum of 1 inch.
- b. **Pagination.** Each page should be identified by the last name of the managing Principal Investigator and the page number. Type the name of the proposed managing Principal Investigator in the lower right portion of each page, followed by the sequential page number.

3. **Ordering and Content of Materials.**

- a. **VA Form 10-1313-1** is the first page and is completed as follows:
 - 1) Items 1 and 2. Leave blank.
 - 2) Item 3. Identify review group as "CHIR"
 - 3) Item 4. Insert "2008" as review date.
 - 4) Item 5. Insert the number of the managing Principal Investigator's facility.
 - 5) Item 6. Specify the location of the facility.
 - 6) Item 7. Leave blank.
 - 7) Item 8. Leave blank.
 - 8) Item 9. Type the last name of the proposed managing Principal Investigator in capital letters, followed by the first name and initial(s). Specify the individual's degrees and list the telephone number and e-mail address.
 - 9) Item 10. The title should not exceed 72 typewritten spaces.
 - 10) Item 11. The total is the total funding (in direct costs only) that is being requested for all years (not to exceed 4 years).
 - 11) Item 12. Check the appropriate box for the proposed Managing Principal Investigator's VA employment.
 - 12) Item 13. Leave blank.
 - 13) Item 14. Leave blank.
 - 14) Item 16. Leave blank.
 - 15) Items 17, 18, 20, and 21. Provide information for proposed managing Principal Investigator.
 - 16) Item 19. Complete fully.
 - 17) Signatures. An original, dated signature of the proposed managing Principal Investigator (PI) is required. An original, dated signature of the ACOS for R&D, or designee, also is required. In signing, this person certifies that the proposal is administratively complete and all required reviews have been conducted. *Type in telephone number and e-mail address of ACOS or other individual to contact for any administrative issues (insert name in parentheses if not ACOS for Research).*

- b. **Table of Contents** (Second page of the concept paper).

c. **Concept Paper Narrative** (Third and subsequent pages. No more than 5 pages.)

d. **Appendices**

- 1) Present a diagram or organizational chart for the proposed relationship among PIs, projects, and other resources. No more than one page.
- 2) Principal Investigator biosketches (VA Form 10-1313 5/6)
- 3) Present an overview of all researchers in tabular form. No more than one page.
- 4) Describe available resources. No more than two pages.
- 5) Budget plan for years one and two. No more than one page.
- 6) One-page letter of commitment from each named Principal Investigator.

HSR&D CHECKLIST FOR CONCEPT PAPERS

Proposed Principal
Investigators starting with
managing PI:

All sites (facilities):

Site VISN numbers:

-
- Application received in CO, HSR&D by January 30th, 2008
- VA Form 10-1313-1 complete (page 1)
- Table of Contents (page 2)
- Narrative (no more than 5 pages)
- Appendix 1. Diagram or organizational chart (no more than one page)
- Appendix 2. Principal Investigators biosketches (VA Form 10-1313 5/6)
- Appendix 3. Overview of staff in tabular form. No more than one page.
- Appendix 4. Describe available resources. No more than two pages.
- Appendix 5. Budget plan for years one and two. No more than one page.
- Appendix 6. One page letter of commitment from each named Principal Investigator.