

January 13, 2005

**UNDER SECRETARY FOR HEALTH'S INFORMATION LETTER**

**REQUEST FOR PROPOSALS (RFP) TO ESTABLISH VETERANS INTEGRATED SERVICE NETWORK TELEHEALTH PROGRAMS IN TELERETINAL IMAGING FOR DIABETIC RETINOPATHY**

**1. Purpose.** This Information Letter announces the opportunity for the Veterans Integrated Service Networks (VISNs) in the Veterans Health Administration (VHA) within the Department of Veterans Affairs (VA) to submit proposals to obtain funding for equipment and staffing to establish VISN Telehealth Programs for the assessment of diabetic retinopathy. These Telehealth Programs will utilize commercially available non-mydriatic retinal cameras with Digital Imaging and Communications in Medicine (DICOM) connectivity to VHA's Veterans Health Information Systems and Technology Architecture (VistA) imaging infrastructure to acquire, transmit, and store digital retinal images. Images will be associated with reports made available through the Computerized Patient Record System (CPRS). Such teleretinal imaging systems will benefit veteran patients with diabetes mellitus by ensuring they receive timely evaluation and effective treatment for diabetic retinopathy.

**2. Request for Proposal.** This Request for Proposal (RFP) is intended to provide the resources for VISNs to establish a significant telehealth capacity to assist in the management of patients who are at risk from diabetic retinopathy. Digital retinal imaging with interpretation by a trained eye care professional, optometrist or ophthalmologist, is sufficient to satisfy the clinical reminder for eye care, required for patients with diabetes mellitus. Therefore, establishing this capacity should enable VHA to continue to improve the External Peer Review Program (EPRP) clinical indicator for evaluation of diabetic patients for diabetic retinopathy.

**3. Definitions**

a. **Teleretinal Imaging.** Teleretinal imaging to detect diabetic retinopathy involves the systematic assessment of diabetic eye disease in an "at risk" population. This assessment involves the capturing of adequate retinal images from the targeted population and transmitting them via a secure and reliable telecommunications network for reading. The stored image and the associated report must then be available for the patient's clinician(s) to assist in the care of the patient.

b. **Telehealth Technologies.** Telehealth technologies are information technology-based tools that collect clinical indices in the form of vital signs, disease management data, still images, and live video from an originating site where the patient is located. These data are then sent via telecommunications networks to a remote site where they are received, reviewed, and assessed by clinician readers. Telehealth technologies enable a range of health care services to be provided that cross the usual constraining boundaries of geographic distance and time.

c. **Joslin Vision Network.** The Joslin Vision Network (JVN) is a digital teleretinal imaging system developed by researchers at the Beetham Eye Institute of the Joslin Diabetes Center in Boston, MA, an academic research foundation affiliated with Harvard Medical School.

d. **“At Risk” Population.** Those patients with diabetes mellitus who are “at risk” for development of diabetic retinopathy includes those who:

- (1) Have not had an eye evaluation within the past year.
- (2) Have failed to keep VA eye clinic appointments or provide evidence of eye examination by a non-VA optometrist or ophthalmologist so that VHA may meet EPRP performance measures.
- (3) Have Type 2 diabetes or Type 1 diabetes for more than 5 years.
- (4) Have poorly controlled blood glucose on insulin, or HbA1c more than 8 percent after 1 year of diabetes treatment.
- (5) Have proteinuria (more than 300 mg/24 h), elevated serum creatinine, are dialysis dependent or post transplant.
- (6) Have poorly controlled blood pressure (e.g. more than 140/90 mm Hg).
- (7) Have vision impairment not associated with elevated blood glucose.
- (8) Are pregnant.
- (9) Have other diabetes-related vascular disease.

#### **4. Background**

a. VHA has almost 7 million enrolled veterans (with about 5 million active users) for whom it provides health care services at an annual cost of approximately \$27 billion. Diabetes is a major burden of disease that VHA provides care for since estimates suggest that over 20 percent of VA’s patient population has diabetes mellitus. The prevalence of diabetes in the veteran population makes the timely assessment of diabetic retinopathy a major VA health care need. In Fiscal Year (FY) 2000 Congress recognized this important issue by requiring VA to collaborate with JVN and implement teleretinal imaging to assess diabetic retinopathy. Pilot implementation of the JVN system between FY 2000 and 2004 established the appropriateness of teleretinal imaging technology for this purpose. JVN and VHA have agreed that widespread implementation of teleretinal imaging in VHA will take place on VHA’s VistA imaging platform.

b. The first stage in implementing a teleretinal imaging program involves using VISN data systems to identify the “at risk” population for diabetic retinopathy and to establish suitable mechanisms to access these patients for teleretinal imaging at designated sites.

c. Acquiring the images of the retina involves the use of a digital camera that is capable of non-mydratic imaging with digital image acquisition and is a validated telehealth technology and meets standard specifications. For this project, these cameras will be purchased as part of a national technology contract that will be conducted through the Office of Acquisition and

Materiel Management (OA&MM) at VA Central Office. The staff person acquiring the teleretinal images requires skills and competencies that are detailed in Attachment B. The imager should also be trained to provide information, health promotion advice, and care management as necessary. Referral of patients in whom adequate retinal images cannot be obtained, or who decline this intervention, must be made to the appropriate eye care professional, optometrist, or ophthalmologist, in a timely manner.

d. When adequate retinal images are obtained, they are transferred in a store-and-retrieve mode of telehealth, in the DICOM format, to a designated Reading Center, which may be within the VISN or another VHA location that provides such services from a collaborating VISN. Adaptations to VistA imaging including interfacility consults with images attached will be made, in subsequent phases of this project, to enable this platform to be used in or across all VISNs for this process.

e. A designated reader (trained optometrist or ophthalmologist) at the Reading Center will interpret the images and provide a report using standard diabetic retinopathy classification and utilizing reporting templates that were developed in FY 2004 in VISNs 1, 20 and 23 and are available upon request to VISN 1's Patricia A. Weaver at 508-583-4500, extension 1590, or email Patricia.Weaver@med.va.gov. Should the assessment of retinal images result in clinical concerns with respect to diabetic eye disease or other eye pathology, the responsible imager and/or referring practitioners will be notified about these findings.

f. The teleretinal images will be stored in a DICOM compliant file format in a location that meets VA Office of Information (OI) technology requirements.

g. VISNs that submit successful RFPs will receive funding for staffing and teleretinal imaging cameras that will be installed by the vendor and a dedicated implementation team from the VHA OI. This team will be funded by VA Central Office together with a help line that will be maintained for 2 years. Thereafter, technical support will be provided through regular VistA support processes at the facility level.

h. When images and reports have been generated, they will be available through the CPRS and VistA imaging for the referring imager and/or credentialed supervising health care provider(s) to view. This process will be instituted, by a national IT implementation team, in all VISNs that submit a successful proposal.

i. The teleretinal imaging system will have established administrative arrangements that include staff oversight, appropriate informed consent documentation (when deemed necessary by local policy), clinical coding, and workload credit for both imagers and readers.

j. Outcome measures will be collected to evaluate the success of each program.

## **5. Funding**

a. Funding for teleretinal imaging technologies including up to six cameras will be made available to VISNs who submit a satisfactory response to this RFP. The teleretinal imaging technologies will be configured into three components: cameras from a national contract, a standardized image acquisition site package, and a standardized image reading center package. Additional details about the standardized packages are available in Attachment B. VISNs may opt to partner with another VISN for image reading services as an alternative to establishing their own. Funding will also be made available to support personnel to develop and deploy a VISN-wide program. VISNs applying for funding may request funds for personnel such as imagers, image readers, and support personnel. However, based on the fixed amount of money to be awarded, VISNs are required to provide funding for any additional staff as well as any ongoing technology expenses (e.g., extended service warranties for cameras, etc) necessary to implement and assure the success of a VISN-wide teleretinal imaging program. In the proposal, it is essential that a clear plan for staffing (i.e., imagers and readers) and support and oversight is presented, including the identification of VISN or multi-VISN coordinators for deployment coordination.

b. Imager and reader training will be made available to VISNs through remote and “hands-on” supervised training at a VA Ocular Telehealth Center, to be established with funds from this program. This Center will have responsibility for providing initial training, recertification, and offering quality improvement services to imagers and readers. Travel expenses to the Telehealth Center will be the responsibility of the VISN and will not be covered by funds from this program. Alternatively, VISNs may make contractual arrangements with another comparable standardized and validated telehealth technology company to provide training.

c. The funding for this program will be for non-recurring, 1-year support. It is required that programs provide details of how local financial support will occur beyond the grant.

**6. Performance Measures.** VISNs that receive funding from this program must comply with the following:

a. Image a minimum of 5,000 “at risk” patients within 12 months of commencing the VISN program. This minimum number of patients is based on a VISN model utilizing 6 cameras. If a VISN deploys less than 6 cameras, the minimum patient number requirement will be adjusted pro rata (e.g., VISNs with 3 cameras image 2,500 patients during the first year).

b. The VISN teleretinal imaging program must meet the requirements and components listed in Attachments A, B, and C.

c. Funded programs are to provide routine clinical care. They will be funded from medical care funds and should not be funded through research activities such as a Cooperative Research and Development Agreement (CRADA).

**7. Rating and Evaluation of Proposals.** Proposals will be evaluated and rated for merit, innovation, and completeness in response to each of the elements outlined in Attachment A by an

appointed panel of field and VHA VA Central Office staff that will include the Eye Care Performance Consultant Team, composed of the VHA Director of Optometry Service and Ophthalmology Consultant.

**8. Timetable and Instructions for Submission and Funding.** See Attachment A.

**9. References.** Texts, Journals, Articles, and Web sites related to this RFP are available upon request from the Office of Care Coordination via Mr. Junius Lewis at (202) 273-8361 or e-mail: Mr. Junius.Lewis@va.gov.

**10. Inquiries.** Questions regarding this request for proposals should be directed to Adam Darkins, M.D., Chief Consultant, Office of Care Coordination at (202) 273-8563, e-mail: Adam.Darkins@va.gov or Junius Lewis, Program Analyst, Telehealth Strategic Healthcare Group, at (202) 273-8361 or e-mail: Junius.Lewis@va.gov

Jonathan B. Perlin, MD, PhD, MSHA, FACP  
Acting Under Secretary for Health

Attachments

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## ATTACHMENT A

### TELERETINAL IMAGING PROPOSAL REQUIREMENTS

1. **Eligibility Requirements.** All Veterans Health Administration (VHA) Veterans Integrated Service Networks (VISNs) are eligible to apply for this funding except VISNs 1 and 20.

2. **Elements of Proposal.**

a. **Outlining the Telehealth Program.** All applicants must detail the clinical, technical, and administrative processes that they will implement should they receive funding. In doing so, the applicants must describe the desired number of cameras and image acquisition workstations and any Reading Center workstation as well as how the health informatics processes are integrated across the VISN or partnering VISNs. In particular, there should be clear evidence of concurrence by Ambulatory Care, Ophthalmology, and Optometry on the role of teleretinal imaging in the care of patients with diabetes. The specific roles for each service in deploying and managing this telehealth program should be delineated. *NOTE: Applicants need to carefully follow the detailed outline in Attachment B.*

b. **Defining the Geographical Network.** The facilities to deploy equipment from program funding must be described along with the number of diabetic patients served in each location (“at-risk” populations).

c. **Outlining the Staffing.** The administrative and clinical staff that will be provided by the VISN to support and sustain the program must be described. A VISN coordinator should be established and clearly identified. If a multi-VISN proposal is submitted, then each VISN shall establish a coordinator and these coordinators are to be clearly identified.

d. **Information Technology Infrastructure.**

(1) Digital images from the acquisition sites will pass through a Digital Imaging and Communications in Medicine (DICOM) gateway and use VistA imaging to transfer across the VHA's wide area network (WAN) to the reading sites.

(2) To be successful, each VISN must work with its assigned Implementation Manager (IM) for proper implementation and to verify pertinent Veterans Health Information Systems and Technology Architecture (VistA) imaging and WAN information, adequate bandwidth and data storage capabilities, and to coordinate remote access to gateways. Contact Janis Sollenbarger (by phone 520-795-5492 or email [Janis.Sollenbarger@med.va.gov](mailto:Janis.Sollenbarger@med.va.gov)) or Linda Towson (by phone 202-997-5148 or email [Linda.Towson@med.va.gov](mailto:Linda.Towson@med.va.gov)) for your VISN IM contact or other implementation information.

e. **Camera Requirements.** In the proposal the exact number of non-mydratiac teleretinal imaging cameras the VISN requires must be specified (up to a maximum of six). These cameras will be purchased as part of a national technology purchase that will be conducted through the Office of Acquisition in VA Central Office.

f. **Privacy, Confidentiality, and Cyber Security.** Each applicant must provide assurance that the program will comply with all relevant privacy, security, and cyber security requirements.

g. **Administrative Functions.** Each applicant must have administrative practices that will ensure the appropriate use of this telehealth technology to improve patient outcomes. These practices include:

- (1) Clinical coding.
- (2) Imager and Reader workload credit.
- (3) Informed consent (VHA Handbook 1004.1, 9.g.(2)(a)).
- (4) Staff training.
- (5) Continuity of care.

h. **Quality Assessment.** Prospective programs will undertake routine outcomes evaluation (see Attachment B).

### **3. Preparing Proposals.**

a. Each proposal should have identifying information in the cover letter: the name and address of VISN submitting the proposal and contact information (name, phone, fax, e-mail, if available) for the clinical staff responsible for preparation and submission of the proposal.

b. Each proposal should begin with an Executive Summary, no longer than two pages. This should summarize information regarding the proposal, plans for implementation, and how the program will assist the VISN in meeting eye care performance measures for patients with diabetes. It should also quantify the “at risk” population.

c. Address each of the elements described in the Elements of Proposals (see preceding par. 2). All proposals are to address each element. Standard size paper, single space, with 10 or larger font size must be used. Each page should be numbered sequentially and the application must be limited to fifteen pages (not including letters of support).

d. Each proposal is to be reviewed locally with support indicated in accompanying letters from facility Directors and VISN offices. In particular, the proposal must be endorsed by the respective Chief Information Officer, Ambulatory Care, Ophthalmology and Optometry VISN Consultants.

e. Assistance in preparing Office of Information (OI) aspects of the proposal (e.g., local and regional WAN bandwidth, remote gateway access, and image and data storage capacity) is available to the VISN through its assigned IM. Please contact Janis Sollenbarger (by phone 520-795-5492 or email [Janis.Sollenbargar@med.va.gov](mailto:Janis.Sollenbargar@med.va.gov)) or Linda Towson (by phone 202-997-5148 or email [Linda.Towson@med.va.gov](mailto:Linda.Towson@med.va.gov)) for your VISN IM contact or other implementation information.

**4. Timeline and Submission Instructions.**

a. **Timeline.** Proposals must be submitted to the Office of Care Coordination and received by March 1, 2005. The review process will continue for up to 30 days after this submission deadline. Equipment availability and patient enrollment are expected to start for the first VISNs scheduled on or around April 30, 2005.

b. **Submission Instructions.** An electronic and ten paper copies of each application are to be submitted to:

Chief Consultant,  
Office of Care Coordination (11CC)  
Office of Patient Care Services  
Department of Veterans Affairs  
810 Vermont Avenue, NW  
Washington, DC 20420

## ATTACHMENT B

### TELERETINAL IMAGING PROGRAM COMPONENTS

#### 1. Summary

a. Screening for diabetic retinopathy preserves vision, as shown in several multi-center randomized clinical trials. Within the Veterans Health Administration (VHA), a system for screening patients with diabetes in a primary care or other comparable setting, with referral to eye care professionals for those with potentially treatable retinopathy, should result in improved quality of life and reduce the number of legally blind or significantly visually impaired veterans. Using non-mydriatic digital retinal imaging, retinal photographs are obtained electronically and transferred to a Reading Center staffed by trained readers (i.e., optometrists and/or ophthalmologists), where a retinopathy screen and determination for follow-up is made. The imager, supported by an appropriately credentialed health care provider from the imaging site, provides patient education and arranges for appropriate patient disposition.

b. The purpose of teleretinal imaging of patients with diabetes is to provide consultation to the credentialed supervising health care provider who does not need to be an eye care professional. Such consultation is not to provide care, but rather to assist in screening for possible treatable diabetic retinopathy. If an image is not interpretable, evidence of treatable retinopathy is identified, or other eye pathologies are detected, those patients will be referred immediately to an eye care professional for further evaluation. Most importantly, teleretinal imaging does not replace a comprehensive eye examination when indicated, as there is only anecdotal evidence for its ability to adequately detect non-retinopathy eye pathologies.

#### 2. Components

a. Imagers. Imagers will be trained to acquire images using a non-mydriatic digital retinal camera. The imager will also function as a patient educator and care coordinator for the eye care component of the patient's care within the primary care clinic or other appropriate site. The imager role should be a dedicated, full-time position. Local circumstances and patient needs may justify the imager having other duties and responsibilities, but these should not significantly impact on their primary imaging responsibilities. Evidence should be presented that a minimum of 5,000 patients with diabetes will be imaged in the first year, and up to 10,000 in subsequent years. This minimum number of patients is based on a Veterans Integrated Service Networks (VISNs) model utilizing six cameras. If a VISN deploys less than six cameras, the minimum patient number requirement will be adjusted pro rata (e.g., VISNs with three cameras image 2,500 patients during the first year). Typically, the imager will be General Schedule (GS)-6 to GS-8, for which position descriptions will need to be developed. A staff-level professional should supervise the imager. This supervisor does not need to be an eye care professional. There should be evidence that the imager will regularly interact with an eye care professional at the imaging site to assure follow-up of patient-related findings.

b. Retinal Cameras. Non-mydriatic retinal cameras should produce high-resolution digital retinal images without requiring pupil dilation. These cameras will be purchased through a national technology contract created by the Office of Acquisition and Materiel Management

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(OA&MM) at VA Central Office for camera systems whose Digital Imaging and Communications in Medicine (DICOM) software products have been tested and certified by VistA imaging.

c. The facility where the camera is located must provide a dedicated room for imaging that can be darkened (a minimum of 98 square feet).

d. Electronic Consult. Electronic consults should be forwarded to the Reading Center site located within the VISN or alternatively, within a partnering VISN. The trained readers must be able to access the electronic image and provide a diagnosis and disposition response to the consult using the Computerized Patient Record System (CPRS) and VistA imaging.

e. Imaging Center Hardware and furnishings will be provided in a standardized package detailed in a national contract created by VA Central Office OA&MM.

f. Reading Center Hardware and furnishings will be provided as a standardized package detailed in a national contract created by the VA Central Office OA&MM to include a workstation with high-resolution or other comparable standardized and validated telehealth technology monitors capable of multiple image montage display, image magnification and red free display.

g. Readers. Optometrists and/or ophthalmologists should read the retinal images after having received appropriate training. Reader Centers should be staffed on a daily basis and a plan for reading images on an urgent basis should also be developed. It is acceptable for applications to propose image reading either within the VISN by establishing a Reading Center, or by contracting for these services with other VA Reading Centers if the patient volume, expertise, and/or geography favors this. It should be clearly stated how reading duties are to be shared among individuals and sites.

h. Administrative oversight. The VISN should assure administrative oversight for the imaging program with a minimum of 0.25 professional Full-time Equivalent (FTE) Employee. An optometrist and/or ophthalmologist should be involved in overseeing the program, but need not be the program administrator. In addition, the VISN should provide support and/or travel for imagers and readers to maintain their skill levels, by their participating in quality assessment programs. Imager and reader training, recertification, and quality assessment may be accomplished by remote and “hands-on” supervised training at the VA Ocular Telehealth Center or by an appropriate outside contractual arrangement. Imager training should include photographic imaging, patient education, and care coordination components. It would be appropriate for the imager to be actively involved with the existing diabetes education program(s) at the VA medical facility to improve care coordination.

i. Programmatic Requirements. The geographic distribution of non-mydratic cameras within a VISN should be based on the “at risk” diabetic population. It is estimated that the minimum volume for each imager is 1,000 diabetic patients in the first year and up to 2,500 patients annually thereafter. Review of the geographic distribution of “at risk” patients will be required to determine the number of teleretinal imaging locations required. In general, one non-mydratic retinal camera will be required for each imager. In some cases where there are fewer

than 1,000 “at risk” diabetic veterans at a single site, it may be possible to share an imager and/or transport the camera between geographically close sites. Keeping in mind that each camera is estimated to cost about \$30,000, a plan that involves frequent movement of a camera between locations might affect the performance of the camera, making this plan less feasible. The annual salary with benefits for a GS-6 to GS-8 imager for each site should be included in the cost calculations. Optometrists and/or ophthalmologists should read the images and staff the Reading Center. It is estimated that each 1.0 FTE reader could read images from at least 7,500-10,000 patients annually. To assure VistA imaging and CPRS capability, Information Technology support must be involved in the effort.

j. Miscellaneous. The primary care site or other location where imaging is performed and the Reading Center will each capture workload for acquiring and reading images, respectively. When images reveal retinal pathologies that require urgent attention, the patient must have immediate access to optometry or ophthalmology eye care services. There should be a clearly stated plan for how eye care referrals will be managed when the results of retinal imaging suggest that urgent or emergent consultation is required.

## ATTACHMENT C

### TELERETINAL IMAGING EQUIPMENT TECHNOLOGY REQUIREMENTS

Commercially available technology must be used for all image acquisition, reading center diagnostic displays, and workstations. Veterans Integrated Service Networks (VISNs) must propose deploying commercially available non-mydratic retinal cameras with Digital Imaging and Communications in Medicine (DICOM) connectivity to the Veterans Health Information Systems and Technology Architecture (VistA) imaging infrastructure for the acquisition, transmission, and storage of the teleretinal images as described in this document. VISNs must describe the desired number of cameras and image acquisition workstations and any Image Reading Center Workstation they wish to deploy.

#### 1. Image Acquisition Workstation

a. A VISN must describe the desired number of cameras and image acquisition workstations they wish to deploy.

b. A VISN must provide a DICOM gateway for each of its sites participating as an image acquisition site that will acquire images from the retinal camera located onsite at its medical center or at its associated Community Based Outpatient Clinics.

c. A VISN must provide a separate workstation loaded with the Computerized Patient Record System (CPRS) for each of its sites participating as an image acquisition site.

d. A VISN must ensure VistA imaging software is available and running at each of its sites participating as an image acquisition site that will allow acquisition and storage of retinal images in VistA imaging storage devices.

#### 2. Reading Center/Diagnostic Display Workstation

a. VISNs must describe whether they require a Reading Center workstation or alternatively if they intend to partner with a separate VISN for image reading services and therefore require no Reading Center workstation.

b. CPRS and VistA imaging software will be installed on the reading workstation and used for reporting. The VistA imaging software will be used to view retinal images and to associate those images with the patient's consult or procedure report in CPRS. The completed diabetic screening report will be written in the consult or procedure note using the provided retinal screening template.