

# The Telemedicine News

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Special points of interest:

NEXT WEEK:

- 2002 American Telemedicine Association's 7th Annual Meeting & Expo Sun-Wed June 2-5th Los Angeles Convention Center
- 2002 VHA National Telemedicine Conference Thursday June 6th VAMC Long Beach, CA & VAKN Broadcast

## The Ongoing Development of Home-Telehealth in the Veterans Health Administration

Adam W. Darkins, M.D.

The age of the veteran population treated by VHA is increasing, and along with this trend, is the associated increase in the need for VHA services and treatments that address chronic conditions. The challenges that this demographic and health status change present to the VHA in delivering health care services are ones that will beset the rest of the health care industry over the next 10 years. In general, the national health care system is still heavily focused on institutional care in hospitals and long-term care facilities. This still occurs despite a recent move towards primary and ambulatory care as ways to help patients maintain independent lives and avoid unnecessary admission to hospitals and long-term care facilities. Telemedicine technologies are now making it possible to move the locus of care beyond primary and ambulatory care into the home. VHA is an acknowledged leader in the area of home-telehealth; as we pilot the use of new technologies to meet the changing health care needs of our patient population, other organizations are looking to us to see whether the future of health care lies in this direction.

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## The Editor's Thoughts

Michelle Hill R.N., M.S.N

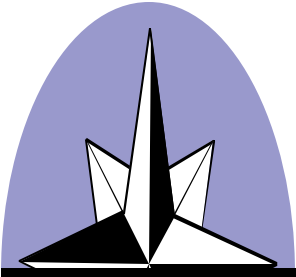


I have 545 items in my Microsoft Outlook file. I'm sure that's not a record, especially for us packrat types. I've created 35 subfolders for my Inbox. As I work toward a "paperless" system, I build my

"virtual" crowded electronic file full of documents. I've just shifted my stuff; it kind of feels like hiding my clothes and toys under the bed as a kid. Some things I save for later (like part of a giant

rainbow lollipop), but it's the getting-back-to-it part (before paper and toys have stuck to it) that's tough to fit in.

As I work on getting out another issue of "The *(continued on page 2)*



**“Are people  
reading our  
newsletter?  
Does it  
make for a  
good read?”**

## The Editor’s Thoughts

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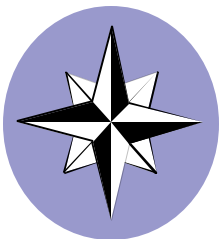
*Telemedicine News*”— the 5<sup>th</sup> since the newsletter’s inception and the beginning of a second year—I can’t help but wonder where the newsletter ends up—printed and read at leisure, perhaps over a mid-morning coffee break, saved electronically for later reading, or (and I’m sure this is a rarity) headed straight to the recycle bin.

Because I have recently felt barraged by emails, I feel especially sensitive about providing value with my email communications. I admit that I delete plenty of emails, even those from friends and family, without reading them. For the past few months I have been receiving dozens of forwarded email tips on motherhood. It’s true that I am new to motherhood, but when it comes to unsolicited advice—I get plenty. I get welcome advice from the online sites to which I subscribe, and plenty more advice from numerous well-intentioned mothers that approach me when I am out running errands or enjoying a walk with my son. So, I have started to delete the emails; some tips may actually be of value, but I don’t have the energy to filter through them all.

So, my question is: “Are people reading our newsletter? Does it make for a good read? Is it what you, the readers, want and need—does it provide value?”

Unlike subscription materials or newsletters distributed as part of “paid” membership, we don’t have a feedback mechanism from which to gauge our readership. *I could send out an email survey, but...*

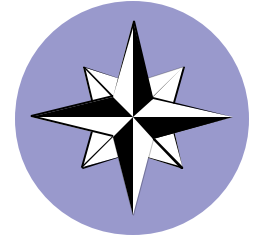
My point is, that we, the newsletter staff, don’t want to fill your recycle bin. We want to give you content that helps you and your colleagues and ultimately serves the patients. So, please take a minute to send me an email. I’ll read it, I promise. Make the subject heading “*For your ‘Read Now’ box*” and I’ll get right to it. Seriously, we would appreciate your feedback and are always looking for new material and welcome article submissions or ideas from you.



**Send your  
For your “Read Now” box  
Email to  
Michelle.Hill@med.va.gov**

## On Hand at the Senate Veterans Advisory Committee Hearing

Marlis Meyer, Director, VISN 8 e-Care  
Coordination Service

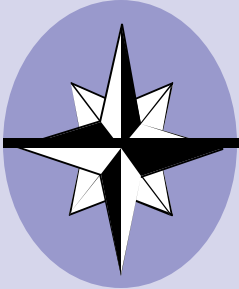


I had the privilege to attend the Senate Veterans Advisory Committee (SVAC) Hearing where Dr. Roswell addressed alternative care options to institutionalization. It was both an exciting and overwhelming experience being in the halls and chamber of the Russell Senate Office Building amidst our Senators. Serving as a VA expert to Dr. Roswell on alternative care options such as VISN 8's Community Care Coordination Service (CCCS) program was an honor.

It was clear that the SVAC was concerned with the progress the VA was making towards the implementation of the Long Term Care (LTC) Millennium Bill, especially as it pertained to the development and system-wide implementation of alternative care options to institutionalization. A presentation given by the General Accounting Office (GAO) reporting on the availability of noninstitutional services indicated that these services were unevenly available across the VA system. The Committee then listened intently to presentations from field representatives on Home Based Primary Care and the Unified

Psychogeriatric Biopsychosocial Evaluation and Treatment (UPBEAT) program, which is a foster care initiative and program in partnership with the Alzheimer's Association; they applauded these accomplishments.

During this forum, Dr. Roswell shared an overview of the VISN 8 CCCS, a product of his innovation during his tenure as VISN 8 Director. He discussed how this home telehealth initiative had effectively reduced hospitalizations, bed days of care, emergency room visits and nursing home placements while maintaining a high level of patient satisfaction. He drew the distinction between the yearly costs per patient ranging from \$2,500 for low-end non-institutional care to that of nursing home care of \$140,000 per year per patient. Dr. Roswell strongly emphasized his intent to continue to support these types of patient-focused, cost-effective innovations; he emphasized the win-win outcome of such community-based efforts which allow the veterans to avoid institutionalization and live at home.



**"VA also must explore utilization of new technologies, such as telemedicine, to expand care of veterans in the home and other community settings ... Use of technology not only reduces the need for institutional long-term care, but also provides veterans with a more rewarding quality of life and greater functional independence."**

Dr. Robert Roswell, April 25, 2002 testimony before the Senate Veterans' Affairs Committee on Non-Institutional Long-Term Care.



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Home-telehealth technologies make it possible to measure a patient's pulse, blood pressure, temperature, weight, pulse oximetry, blood sugar, and anticoagulant status as well as communicate via real-time videoconferencing into the home. The VHA experience of home-telehealth shows that, impressive though it is, the technology is not the dominant part of the equation in home-telehealth. The technology offers us tools we can use to better coordinate the care of patients and improve access to health care services. An important principle underpinning home-telehealth, as with all successful telemedicine programs, is that it should be based on 4 steps for success. Firstly, it should start with identifying a patient need. Having done this first step, the second is to apply clinical care processes to meet the need. It is at the third step that technology should be chosen to support both the patient need and the clinical applications. Finally, the management and business processes must be applied to make sure the program is cost-effective and sustainable. Data from VHA telemedicine programs have shown that home-telehealth programs developed in this way can reduce hospital in-patient admission, reduce ambulatory care visits and reduce medication

## The Ongoing Development of Home-Telehealth

requirements. These benefits have been realized with high levels of patient satisfaction with the services and the technology.

The VHA's health information system VISTA and its companion imaging management system VISTA Imaging give VHA the unique opportunity to link home-telehealth across the care continuum and make sure the relevant clinical information is available to safely and effectively care for complex patients at home using telehealth. VHA home-telehealth programs are pioneering connectivity between home-telehealth technologies and the in-patient hospital record. An interesting preliminary finding from successful home-telehealth implementations in VHA seems to be that simple messaging devices and videophones are appropriate technologies to provide the majority of the care.

The need for highly sophisticated and complex monitoring devices seems less important than the coordination of care. This is not surprising in that it reinforces the message that the steps to success when using telemedicine have to begin with patient need and not the technology. This is one reason why the VHA is such a fertile test bed to develop telemedicine.

The unique mission of the VHA and putting the veteran first comes across clearly in all our programs.

With our success with home-telehealth in VHA the question is being raised of whether it is appropriate to expand this further throughout VHA. This proposition raises some interesting questions that are best illustrated by a simple patient example. Imagine the hypothetical example of a veteran patient with congestive cardiac failure who lives in Seattle and travels down to Tucson for the winter--a snowbird. If this veteran's congestive failure were managed with home-telehealth in Seattle then it would be logical that he could simply plug his home-telehealth device into a telephone jack in Tucson and receive the same care. My personal belief is that the value of home-telehealth will come from developing of large uniform networks in which the hardware and software systems are compatible.

On April 18<sup>th</sup> and 19<sup>th</sup>, 2002 a group of clinical managers and VHA experts in home-telehealth met for 2-days in Alexandria, outside Washington DC to discuss the issues associated with expanding the use of home-

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telehealth in VHA. The result of this meeting was a to create a set of evidence-based recommendations on the future way in which home-telehealth should be developed within VHA. These recommendations are currently in draft form and being further refined before made being available for general dissemination. Given the premise that we are treating patients and not technology, it is not surprising that identifying the patient need in the veteran population for home-telehealth-based services formed the basis for developing these recommendations. After having established and defined the patient need, the evidence base for various home-telehealth clinical applications that can meet this need were reviewed and clinical recommendations were developed. VHA could choose an array of technological infrastructures to support this home-telehealth. Associated questions are: Should there be a centralized system of distributed call centers that individual facilities and CBOC's plug utilize for this? Should the system be locally based with little central infrastructure? Before answering these questions the crucial issue regarding the need for technology standards must be addressed. VHA is in a unique position to work with the various vendors of home-telehealth technology to collaboratively help develop technical standards that would mean our hypothetical snowbird from Seattle would have no problems receiving care in Tucson. Lastly, the final issue covered during this meeting was the management processes related to home-telehealth. Recommendations were developed for the processes of credentialing and privileging, coding and reimbursement, program management and training.

A workgroup at the forthcoming 3<sup>d</sup> annual VHA home-telehealth meeting will help further coordinate this work and communicate with the wider telemedicine community in VHA. So, if your facility/VISN is considering introducing home-telehealth please contact the Telemedicine SHG to get these materials and link into the network of people developing home-telehealth in VHA. Anticipated products that will flow from this work will be:

- A home-telehealth "toolkit" for those starting new programs
- A proposed VHA strategy for home-telehealth
- Training and education modules for home-telehealth.

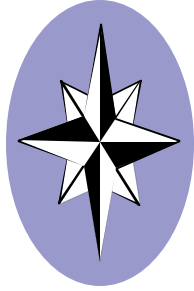
And, please make sure you read the article by Marlis Meyer, one of VHA's leading proponents, on her experience of going to Congress to testify about home-telehealth. It highlights the impact that our work can make.



## VHA Telemedicine SHG Selected Initiatives and Work Currently in Progress

Below you will find a listing of some of the current activities of the VHA Telemedicine Strategic Health Group; it may be useful for you to be aware of this work.

<b>Advising the Undersecretary for Health's Office on Telemedicine Issues</b>
<b>Credentialing and Privileging for Telemedicine</b>
<b>Eight modules of a Web Based VHA Telemedicine 101 Course</b>
<b>Exploring Issues in Supporting Remote Surgical Applications via Telemedicine</b>
<b>Informed Consent Policy for Telemedicine</b>
<b>Linking with JCAHO on Telemedicine Standard Development</b>
<b>Recommendations for Expansion of Home -telehealth in VHA</b>
<b>Recommendations for Teleophthalmology Screening for Diabetic Retinopathy</b>
<b>Regular Liaison with DoD Telemedicine Counterparts</b>
<b>Regular Liaison with the Joint Working Group on Telehealth</b>
<b>Satellite Broadcasts on Telemedicine with EES</b>
<b>Support to VISN Telemedicine Groups (5, 6, 8, 16, 19, 21, 22)</b>
<b>Supporting the Acute Care SHG on the Joslin Vision Network Appropriation</b>
<b>Supporting the VISN 8 Home -telehealth program</b>
<b>Telemedicine Coding Manual for VHA</b>
<b>Third Annual VHA Telemedicine Conference in June 2002</b>
<b>VHA Telemedicine Portal</b>
<b>VHA/DoD Collaboration on Reservists Medicals in VISN 3 (Fort Dix)</b>
<b>VHA/DoD Teleradiology Collaboration in Great Lakes – VISN 12</b>
<b>Web-based Education Software with EES</b>
<b>White Paper on the Use of Telemedicine in Emergency Management</b>



## Telemedicine SHG Issues Final Evaluation Report for 19 Demonstration Projects

John Peters, M.S.

Last month, the Telemedicine Strategic Healthcare Group submitted its final evaluation report to VHA's Office of Patient Care Services, which funded 19 telemedicine demonstration projects during FY00. The article that follows summarizes that final evaluation report, which is available in its entirety through request to **Veta.Brooks1@hq.med.va.gov**.

### Final Evaluation Summary

On August 24, 1999, the VHA Office of the Under Secretary for Health initiated a pilot program, via VHA Information Letter (IL)10-99-015, to establish demonstration projects to implement the use of telemedicine to improve access to and quality of three specialized areas of care: geriatrics and extended care, mental health care and transplant services for veterans. The IL offered an opportunity for all Department of Veterans Affairs facilities offering geriatric, mental health or transplant services care to apply for funding for telemedicine demonstration projects. Subsequently, 27 grant applications were received (14 for Mental Health Care projects, 9 for Geriatric and Extended Care projects, 3 integrated Geriatric Mental Health Care projects, and 1 Transplant Services project.) In November 1999 a selection panel met to review the received proposals. This panel was comprised of designees from VHA's Office of Patient Care Services including the Geriatric and Extended Care Strategic Healthcare Group (SHG), the Mental Health SHG and the Telemedicine SHG.

Nineteen projects were chosen for funding from the 27 applications received. The project funding covered equipment costs and, in selected cases, temporary employment of the staff needed to develop the telemedicine based programs. The IL did not seek to specify the staff, clinical or equipment requirements for the telemedicine projects; however, these factors were to be considered in the selection of projects for funding. The total funding allocation granted under (IL) 10-99-015 was \$1.57M. A pre-condition of funding was an assurance that, if found successful, the parent facility and VISN would provide the ongoing resources necessary to maintain the project as a sustainable permanent service.

Eighteen telemedicine demonstration projects were successfully implemented. These 18 projects involved 23 VHA Medical Centers, VHA clinics, non-VHA healthcare facilities and private residences. During the 12-month start-up period, the projects reported 3400 episodes of care, received by 1002 patients (962 male, 40 female) ranging in age from 33-86 years. The projects were reportedly well received by patients and providers. No standardized patient or provider satisfaction survey tool was used amongst all projects to measure satisfaction. The following anecdotal case reports give positive examples of how the care and treatment of patients was improved as a result of the telemedicine projects:

1. In Minneapolis, 98% (n= 43 of 44 respondents, with 23 non-respondents) of patients responding to a survey stated that they were more likely to be screened for retinopathy because it was available to them at their community clinic.
2. Richmond's transplant telemedicine project and Iron Mountain's tele-mental health project both reported lower 'no show' rates for patients not having to travel the greater distance to the Medical Center for follow-up care.

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3. Fresno reported that enhanced collaboration of an interdisciplinary care team of general medical and psychiatric physicians, psychologist, patient case manager and patient during real-time video visits was afforded by the tele-home care project.
4. Adding digital images of wound healing to the patient's electronic medical record, as was done in the Houston project, provided greater detail than written notes only. It also improved continuity in an environment of rotating fellows and residents on the care team.
5. The telemedicine project begun by VAMC Iron Mountain with collaboration from VAMC Milwaukee's mental health service line instituted psychiatric services at the Marquette CBOC; prior to telemedicine, there were no services at this clinic which serves veterans on Michigan's Upper Peninsula.

### **Emerging Models for Telemedicine Utilization**

In the absence of clear pre-existing models for using telemedicine in the care of geriatric, mental health or transplantation patients, the intent of (IL) 10-99-015 was that each of the 19 projects would develop its own model of remote treatment/care for patients. For projects with sufficient technical and administrative support, the following emerged as effective models for how telemedicine technology may be integrated into the VHA's care delivery system to improve access and quality of care:

#### **For geriatric tele-home care**

1. To institute a program of weekly tele-visits with chronic long-term patients who are considered "at risk" or "high risk" (i.e. those with a history of developing complications or multiple admissions/re-admissions). The tele-visits should be complementary to occasional face-to-face visits in the home or medical facility; frequency of face-to-face visits can be determined by the risk level and ease of travel.
2. To supplement the care many high-risk patients (not just chronic long-term, as in 1. above) require, which is not always available during a typical home health nurse visit (i.e. provide additional care services).

#### **For geriatric teleophthalmology screenings**

To provide easier access to annual screening for retinopathy and prevent vision loss by connecting the local CBOC with the expert care at the distant VAMC.

#### **For tele-mental health care**

1. To provide general or specialized mental health services to individuals or groups, as well as training to staff, patients and caregivers using roll-about video-conferencing (VTC) units operating over ISDN or T1 connections between VAMC's, CBOC's and VET Centers.

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## Telemedicine SHG Issues Final Evaluation Report

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2. To provide individual supplemental, post discharge follow-up, and even emergent mental health services using video-telephones operating over POTS connections into veterans' private residences.
3. To provide diagnostic testing that is remotely administered through telemedicine.

### For transplant service telemedicine

To establish a pre- and post-transplant training and care service and patient image/data-sharing between local CBOC's and distant VAMC transplant centers. With telemedicine the referring physicians and nurses become an integral part of the transplant care team.

### Core Elements for Success

The telemedicine models that resulted from the demonstration projects contain a core set of common elements that were associated with success. These common elements (in random order, and not according to any ranking of importance) were:

1. A designated clinical champion
2. A coordination function - either a designated coordinator or a strong team coordination function
3. Integration with/augmenting any existing hub and spoke model of VAMCs, CBOCs, Domiciliaries or VET Centers
4. Clear technical standards for equipment
5. Robust and reliable technology
6. Adequate technical support staff
7. Protocols with respect to image acquisition, wound care management, emergency situations
8. Adequate training and education of staff, patients and care givers
9. Coordination of care between facility and homecare teams
10. A robust scheduling system to coordinate and tailor the intensity of care and involvement of practitioners to suit the patient need
11. A formal system for the delivery and collection of equipment to and from patients homes

### Projects Beyond Demonstration Phase

All of the projects reporting intend to continue using telemedicine beyond the initial grant-funded first year and find the resources to do this in-house. The keys issues associated with sustaining the demonstration projects into the future include:

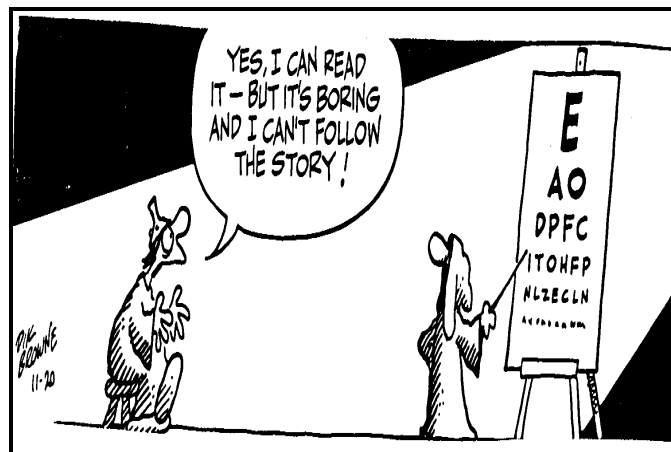
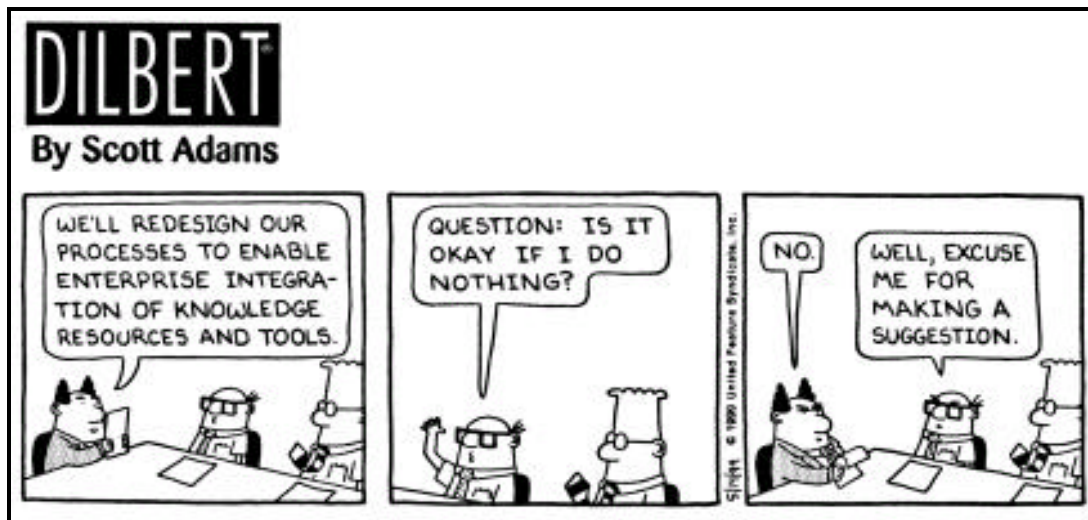
- Appointing a coordinator to manage the program
- Integrating the program into other services
- Selecting the right subset of the patient population to manage
- Allocating a budget to cover staff salaries and periodic equipment upgrades for the program



# Humor

As offered by Mary Skinner, M.S.N.

If you have an idea for a cartoon or have a humorous telehealth story to share, please email [Mary.Skinner2@med.va.gov](mailto:Mary.Skinner2@med.va.gov)



## You know you're facing a telemedicine challenge when:

- You're teaching someone a computer program...You tell them to hit "OK" and they actually try to type "O" and "K" on the keyboard.
- You arrive to set up a scanner for the person who will be document scanning and they are surprised to find that the scanner has to connect to something.
- You show up to install all the equipment needing to set up for the new telehealth program....and no one is aware of what you are doing or why you are there.



*The mission of this newsletter is: “to serve as a conduit to share information, strengthen resources, and promote community for telemedicine within the VHA and with the goal to provide the best quality of care to our patients despite the barriers that distance may impose.”*

**Michelle Hill, MSN—Editor/Writer**

**Mary Skinner, MSN—Publisher/Writer**

**Adam W. Darkins, MD—Acting Chief Consultant/Writer**

**John Peters, MS—Writer**



*TELEMEDICINE, WHERE  
HEALTHCARE  
PROFESSIONALS AND  
PATIENTS CONNECT*

