



**Telehealth and Telemedicine**  
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# Not VA Telehealth



In TV sessions, patients (posed by NPI staff) sit in V-formation so that therapist (on screen) can follow facial expressions on his own monitor.



# “One VA”

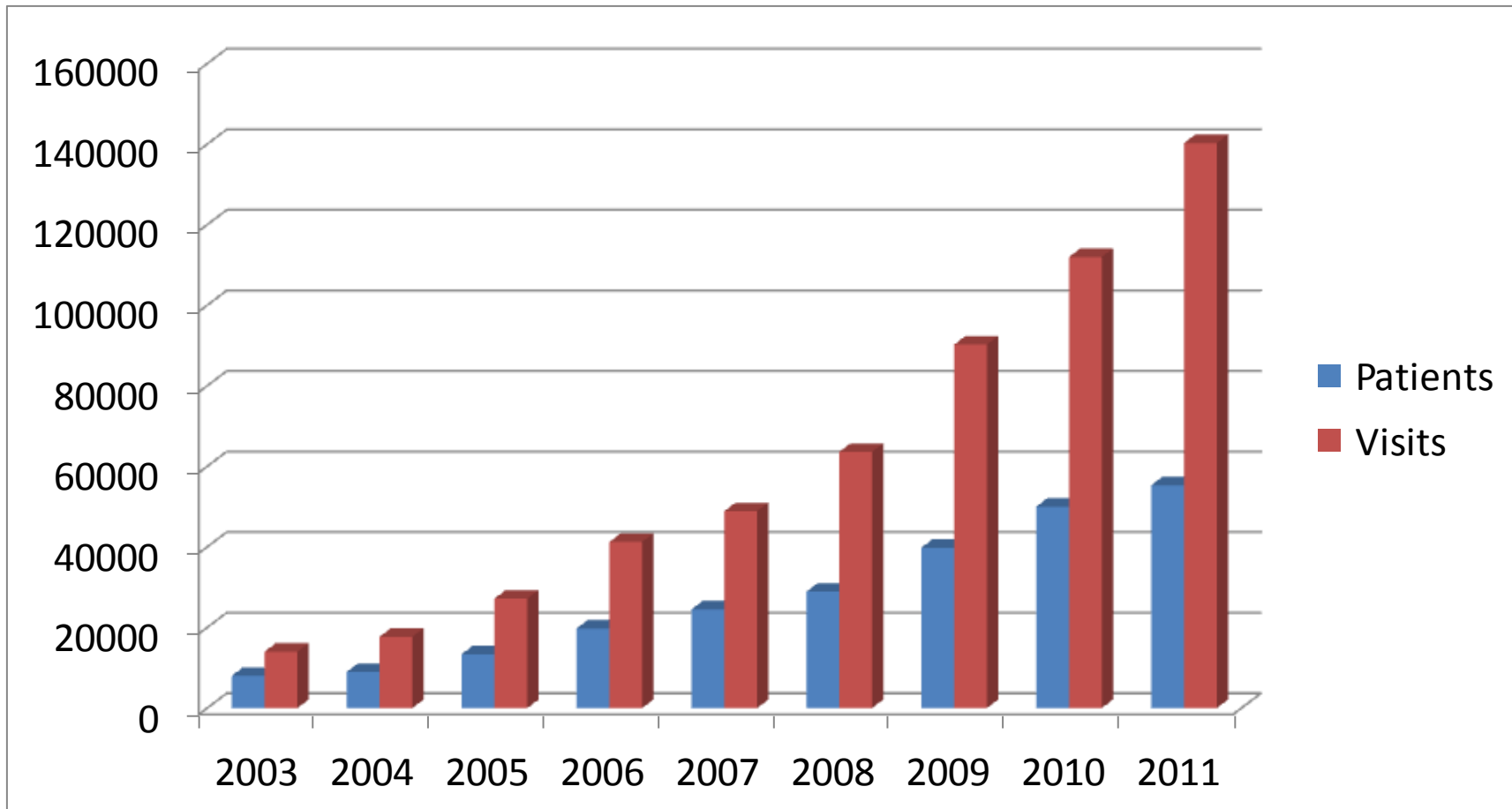
Provide  
the  
right care,  
in the  
right place,  
at the  
right time.

This is our goal with telehealth.

# Growth of Telehealth in VA

First phase	1966–1995 CVT, SFT
Second phase	1995-2003 CVT, SFT, HT, TR
Third phase	2003-2010 CVT, SFT, HT, TR, SM
Fourth phase	2011-2016 CVT, SFT, HT, TR, SM, MH, SE, EC

FY 2014 Goal: 16% of Veterans receive services through Home Telehealth, Clinical Video Telehealth, or Store & Forward



## Telemental Health CVT

In 2011, approximately 50 medical centers and 530 clinics participated.  
Total Telemental Health encounters from 2003-2011 over 550,000.

# Outcomes of 98,609 Veterans enrolled in telemental health services, 2006-2010.

## **OBJECTIVE:**

- The study assessed clinical outcomes of 98,609 mental health patients before and after enrollment in telemental health services of the U.S. Department of Veterans Affairs between 2006 and 2010.

## **METHODS:**

- The study compared number of inpatient psychiatric admissions and days of psychiatric hospitalization among patients who participated in remote clinical videoconferencing during an average period of six months before and after their enrollment in the telemental health services.

## **RESULTS:**

- Between 2006 and 2010, psychiatric admissions of telemental health patients decreased by an average of 24.2% (annual range 16.3%-38.7%), and the patients' days of hospitalization decreased by an average of 26.6% (annual range 16.5%-43.5%). The number of admissions and the days of hospitalization decreased for both men and women and in 83.3% of the age groups.

## **CONCLUSIONS:**

- This four-year study, the first large-scale assessment of telemental health services, found that after initiation of such services, patients' hospitalization utilization decreased by an average of 25%.

# Telemedicine vs. Telehealth

- **Both:** distance separates those receiving & those providing services
- **Telemedicine:** clinician performing remote consultations, exams and procedures.



- **Telehealth:** includes traditional telemedicine
  - prevention
  - health promotion
  - health education
  - health informatics and databases

# Telehealth Modalities

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**Home Telehealth (HT)**      **Monitors patients and manages diseases through video into the home and use of mobile devices for acute and chronic care management and health promotion/disease prevention**

**Clinical Video Teleconference (CVT)**      **Real-time videoconferencing between VA medical centers and CBOCs that replicates face-to-face consultations between patient and provider, or provider to provider. Uses include specialty consultations and delivery of mental health services**

**Store & Forward (SFT)**      **Acquisition, storage, and forwarding of clinical images to experts for review. Currently used for teleretinal imaging and teledermatology**

**SCAN-ECHO**      **Interactive provider to provider series the uses CVT to educate and mentor frontline providers**

**Secure Messaging**      **Enables timely and secure text-based communication with patients via mobile phones**

**Teleradiology**      **Remote analysis of radiology and nuclear medicine images**

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# Home Telehealth (HT)



- Monitors patients & manages through in home mobile devices for acute & chronic care
- 82 RN coordinators manage through databases & phone contact
- Manage panels of 110 patients
- 8 diseases: COPD, CHF, DM, Depression, PTSD, HTN, Obesity, Substance Abuse

# Home Telehealth (HT)

- *Reductions in Utilization\**:
  - Reduces bed days of care - 53%
- *Home Telehealth Savings\*\**:
  - Between \$1,238 and \$1,999 per annum per patient
- *Patient Satisfaction*:
  - 86% mean score

\*FY2010 Data

\*\*FY2008-FY2011 VA Allocation Resource Center Data

# Clinical Video Telehealth (CVT)



- Real-time interactive video conferencing.
- Can involve supportive peripheral technologies.
- Replicates a face-to-face visit
- Links the patient(s) in clinic or at home to the provider(s) at another location.
- Group or individual appointments.

# Clinical Video Telehealth (CVT)



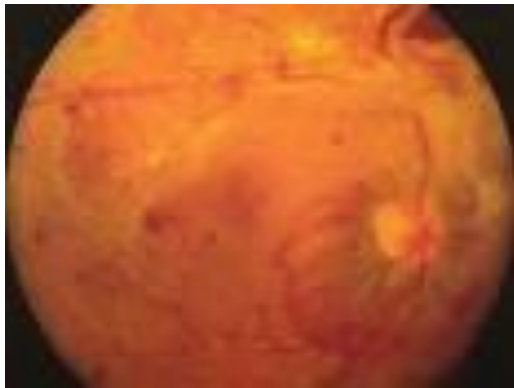
*Travel Reduction Savings\*\**  
– \$34.45 per consultation

*\*\*FY2008-FY2011 VA Allocation Resource Center Data*

# Store-and-Forward (SFT)



- Digital images, video or clinical data captured & “stored.” Data is transmitted or “forwarded” to specialists for review at another facility at a later time.
- Asynchronous
- Used for teleretinal imaging and teledermatology



# Store and Forward (SFT)



- *Travel Reduction Savings\*\**
  - \$38.81 per consultation
- *Patient Satisfaction:*
  - 92% mean score

# Teledermatology

July, 2012-June, 2013

Improved Access & Cost Savings

Month	# of Patients	# SCAN consults	# Tele-Derm Consults	#of visits prevented	Total Estimated Amount of Travel Pay Saved	Total Estimated R/T miles Saved	Total Estimated gasoline Saved (gallons)	Total Estimated GHG (metric tons CO2) saved
Jul-12	2	2	0	2	\$277.23	668	33.40	0.29793
Aug-12	9	9	0	9	\$976.52	2353	117.65	1.04944
Sep-12	24	24	0	20	\$1,746.78	4209	210.45	1.87721
Oct-12	29	28	1	31	\$3,050.32	7537	367.50	3.36166
Nov-12	21	4	17	21	\$1,681.25	4051	202.56	1.80684
Dec-12	15	6	9	15	\$1,605.22	3868	193.40	1.72513
Jan-13	29	6	23	30	\$2,148.47	5177	258.85	2.30896
Feb-13	25	10	15	27	\$2,694.67	6493	324.66	2.89596
Mar-13	19	2	17	19	\$1,318.67	3178	149.84	1.41717
Apr-13	23	0	23	23	\$956.51	2917	115.24	1.30100
May-13	19	0	19	19	\$1,043.64	2515	115.75	1.12160
Jun-13	26	3	23	26	\$1,368.17	3719	164.84	1.65885
<b>Totals</b>	<b>241</b>	<b>94</b>	<b>147</b>	<b>242</b>	<b>\$18,867.46</b>	<b>46686</b>	<b>2254.14</b>	<b>20.82175</b>

# SCAN-ECHO



- Interactive video conference series
- Links panel of content matter experts with PCPs and other front line staff
- Provides both education (1 hour CE) and consultative recommendations.
- Specialists teach and mentor while also co-managing patients
- Patients are able to be managed in their home locale by their provider
- Best mechanism for others to become familiar with the facility specialist and allow staff to adopt the use of technology in healthcare.



# Developing Telehealth with SCAN-ECHO

## FY 13 Participation in the 6 SCAN-ECHO Clinics

— 6503 attendees nationwide

- 167 Sites
- All 21 VISNs
- 2 DoD Sites
- VA Central Office

## SCAN-ECHO leading to change

- *Dermatology* triaging of all CBOC pts by teledermatology
- *Hepatology* using CVT to evaluate transplant candidates
- *Diabetes Self-Management Education* program pioneered virtual training of insulin titration algorithm with ONS
- *Diabetes & CV Risk Reduction* program initiated SC-PACT mini-residency program for PCPs with ongoing virtual support
- *Pain Management* program leading to adoption of e-consults and on demand virtual consulting by CVT

