

**SOUTH TEXAS VETERANS
HEALTHCARE SYSTEM
RURAL
HOME TELEHEALTH
CHF INITIATIVE**

BACKGROUND

- Heart Failure (HF)
 - Approx. 5.1 million people in the U.S. have HF
 - 2013 estimated total cost of HF at least \$32 billion
 - HF is the most expensive of the Diagnosis Related Groups (DRG)
 - HF is the most frequent diagnosis for 30-day readmissions
- Readmission prevention has become a national priority
- Fiscal incentive for health care institutions to provide more effective ambulatory HF treatment to keep patients out of the hospital

Circulation 2013;127:e6-e245.

Heart Lung 2004;33(6):362-371.

JMCP Feb 2014;20(2):206-213.

Cir Cardiovasc Qual Outcomes 2010;3:33-40.

BACKGROUND

- Rural veterans are frequently re-hospitalized due to reduced contact with providers and distance
- Problems with medications and/or diet are not identified early enough to prevent exacerbation
- Identifying and referring these rural veterans for enrollment in Home Telehealth (HT) program and provision of home telemonitoring device allows
 - Vital sign and symptom monitoring
 - Early identification and early intervention
 - Readmission prevention
 - Identification of transportation barriers and intervention

BENEFITS OF HOME TELEHEALTH

- American Telemedicine Association showed that CHF patients on telemonitors (40%) had a lower hospitalization rate compared to those not on telemonitoring (45.5%) within a 9 month period
- Evidence published in *JACC* showed use of remote monitoring reduced the mean total annual hospitalization rate from 3.2 to 0.8 per person
 - CV admission duration also decreased from 23 days to 4 days per year
- Meta-analyses have shown telemonitoring of CHF patients results in significant reductions in
 - All-cause mortality
 - Chronic HF hospitalizations
 - All-cause hospitalizations

South Texas Rural Home Telehealth CHF Initiative. ORH Project ID Number: N17-FY13Q1-S1-P00495

BMJ;2007;334:42-50.

Cochrane Database of Systematic Reviews 2010, Issue 8. Ar. No.:CD007228.

JACC 2009;54(18);1683-94.

CLINICAL PHARMACY SPECIALIST

- Clinical pharmacists' ability to positively impact HF patient care in a wide variety of settings is well documented in the literature
- Provides medication management services along with lifestyle modifications and patient education
- Close contact with HT Care Coordinators, evaluation of telemonitor data, and chart reviews allow for clinical pharmacist intervention
- Interventions can be of multiple magnitudes with ultimate goal of preventing a hospital readmission
- VHA Strategic Goals and Objective for FY2013-18 include expansion of innovation and health technologies nationally
- VHA is pursuing expansion of Telepharmacy in 2014

Am J Health-Syst Pharm Jan 2014;71:134-39.

JMCP Feb 2014;20(2):206-213.

Arch Intern Med 1999;159:1939-1945.

U.S. Medicine. Feb 2014.

STXVHCS RURAL HOME TELEHEALTH INITIATIVE

- Mark Kostelnik, Pharm.D., BCPS, Clinical Pharmacy Specialist – Heart Failure/Home Telehealth
- June Schneberger, RN, MSN, CPHQ, HT Program Director
- Araceli Revote, M.D., MPH, CPH, ACOS, Geriatrics and Extended Care
- Tera Moore, Pharm.D., BCPS, BCACP, Associate Chief, Clinical Pharmacy Programs
- Nancy Burdine, RN, MSN, ACNS, Home & Community Based Program
- Lisa Alexander, RN, MSN, HT Program Assistant Nurse Manager
- Naida Rivera-Carrero, RN, BSN, HT Care Coordinator
- Initial Proposal Approved: 9/2012
- Sustainment Approved: 10/2013

STXVHCS RURAL HOME TELEHEALTH INITIATIVE

- The project aims to improve patient outcomes and patient satisfaction by;
 - Providing better access to care for veterans with CHF residing in rural areas
 - Improving efficiency by preventing exacerbations leading to admissions
 - Reducing readmission rate as well as the duration of hospitalization
- This initiative is also consistent with the Department of Veterans Affairs Strategic Plan to:
 - "Build our internal capacity to serve veterans, their families, our employees, and other stakeholders efficiently and effectively"
 - "Transform health care delivery through health informatics."
- Relates to the Office of Rural Health (ORH) Strategic Goal of using emerging technologies to improve care delivered to rural and highly rural veterans

BEGINNINGS

- Position created to initiate the STXVHCS CHF RURAL HT INITIATIVE
- Following approval of proposal and hiring of a Clinical Pharmacy Specialist (CPS) determined 4 key areas as our focus
 - Patient Identification
 - Enrollment in HT
 - Making interventions
 - Co-management of patients with PACT
- Determined marketing of HT Rural HF CPS services would be beneficial

MARKETING

- Began promoting project in April 2013
- PACT Collaborative
 - Presented overview of program and added value a CPS could provide
- Cardiology
 - Discussed program with specialty inpatient services
 - Attended clinic with HF NP for 1 week to become more familiar with Cardiology staff and gain invaluable advice
 - Attended South Texas HF Workgroup meetings and CHF Huddle calls
- GEC and Pharmacy service
 - Continually market our program and our Clinical Pharmacy Specialists have sent many referrals for their patients to HT
- Increased Awareness of Program
 - Solicited feedback and provided information as requested

IDENTIFYING PATIENTS

- Utilized several different methods to identify patients who meet HT inclusion criteria
 - Primary Care Almanac
 - CAN Reports
 - Referrals from providers
 - Heart Failure CHF Huddle
 - Morning Dashboard
- Morning Dashboard has proven to be the most effective and efficient tool for identifying patients admitted for HF
 - Allows patient contact prior to hospital discharge
- Patient is either enrolled at bedside or contacted immediately after hospital discharge to schedule an enrollment appointment
 - Face-to-face interaction with patient in hospital increases chances patient will enroll in program

MORNING DASHBOARD

SOUTH TEXAS MORNING REPORTS



REPORTS

EXIT



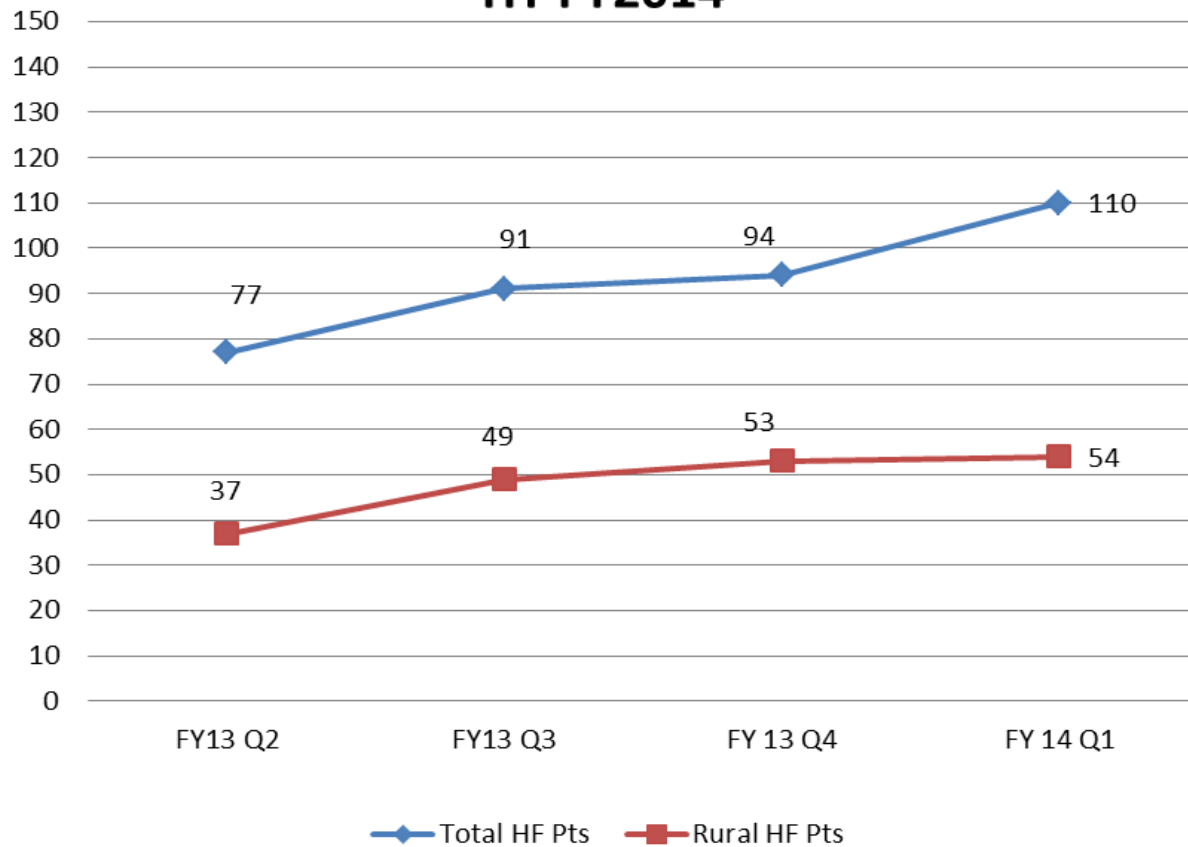
QUOTE OF THE DAY FOR: Tuesday, February 11

By: *Oprah Winfrey*

Real integrity is doing the right thing, knowing that nobody's going to know whether you did it or not.

ENROLLMENT DATA

**Heart Failure Patients Enrolled in STVHCS
HT FY2014**



ENROLLMENT

- 43% increase in total patients enrolled in HT for HF since CPS began
- 46% increase in rural patients enrolled in HT for HF since CPS began
- Expect continued growth with utilization of Morning Dashboard
- Identification and enrollment of urban patients is necessary for the identification and enrollment of rural patients

MANAGEMENT

- Patient home telemonitor data is reviewed daily
- Vital signs and patient responses are evaluated by Care Coordinator
- Care Coordinator alerts CPS if patient vital signs and/or patient responses indicate potential decompensation
- Care Coordinator may also contact CPS for drug information
- CPS contacts patients at request of Care Coordinator for medication reviews, drug questions, and other items
- Recommendations typically made through CPRS
- All done in collaboration with patient's Primary Care Physician

STXVHCS HT CLINICAL OUTCOMES

FY2014

Outcome	FY13 Q2	FY 13 Q3	FY13 Q4	FY14 Q1
HT CHF Readmission Rate	5.45%	2.36%	4.6%	3.14%
Number of CHF Patients Enrolled in HT	77	91	94	110
Number of Rural CHF Patients Enrolled in HT	37	49	53	54
Quarterly BDOC	66	16	65	46

MAKING INTERVENTIONS

- Range from patient education and medication titration to prevention of hospital readmission
- TheraDoc
 - Software used to document provider interventions
 - 3rd party vendor database used to document drug therapy interventions
 - Assigns cost to different interventions
- Costs for various interventions based on literature and/or internal data

THERADOC

Admit Diagnosis: chest pain (03/03/2014)

SCr: -- **Height:** 57 in (145 cm) (08/16/2013)

CrCl: -- **BSA:** 1.35 m²

Weight: 100 lb (45.5 kg) (08/16/2013)

IBW: 110 lb (50 kg)

BMI: 21.6 kg/m²

Location: Previous IP Encounter (03/03/2014)



Admit Date: --

Attending: J

Allergies: CAT DANDER (NAUSEA AND VOMITING~133) (04/02/2014), **BACTRIM DS** (RASH) (04/02/2014), DOG DANDER (NASAL DISCHARGE~436) (04/02/2014), **FLUNISOLIDE NASAL** (EPISTAXIS) (04/02/2014), **PENICILLIN** (PRURITUS) (04/02/2014), **OYSTER SHELL CALCIUM** (RASH) (04/02/2014), MUSHROOMS (ANXIETY) (04/02/2014), **CHOCOLATE** (GASTROESOPHAGEAL REFLUX) (04/02/2014), CINNAMON (ANXIETY) (04/02/2014), AMPHOTERICIN B (HEADACHE) (04/02/2014), **CEFEPIME** (RASH) (04/02/2014), PEANUT BUTTER (PRURITUS) (04/02/2014), ASPIRIN/CAFFEINE/CODEINE (DYSYPNEA~158) (04/02/2014), **TOBACCO SMOKE** (PRURITUS~133) (04/02/2014), SHELLFISH (AIRWAY CONSTRICTION) (04/02/2014), **APPLES** (RASH) (04/02/2014), PLAQUENIL (RASH) (04/02/2014), SNAKE VENOM (RASH) (04/02/2014), **CIPROFLOXACIN** (NAUSEA AND VOMITING~158) (04/02/2014), **ASPIRIN RELATED MEDICATIONS** (04/02/2014), **AMOXICILLIN/CLARITHROMYCIN/LANSOPRAZOLE** (HYPOTENSION~241) (04/02/2014), **ZYRTEC 10MG TABLET** (DROWSY) (04/02/2014)

ALL

INSTITUTION DATA

INTERVENTION ASSISTANT®



New View Adverse Drug Event | General | Clinical Activity | Quick Intervention

Mark selected as: **Intervention Status:** **Follow-up Status:**

	▼ DATE ENTERED	PATIENT	CURRENT LOCATION	INTERVENTION TYPE	INTERVENTION LOCATION	ENTERED BY	RECEIVING CLINICIAN	INTERVENTION STATUS	FOLLOW-UP STATUS	ASSOC ALERT	COMMENTS TO TEAM
<input type="checkbox"/>	09/30/2013 12:09	ZZBUNNY, EASTER		Clinical Activity <ul style="list-style-type: none"> Chart Review Drug Recommendation or Change Lab Evaluation or Recommendations psych Suicide Risk Assessment psych Clozapine Monitoring 	VHASANA 4B MED			Accepted	Complete		Patient on clozapine, recommended CBC and increase in dose for continued avh..

TYPES OF THERADOC INTERVENTIONS

- Numerous
- Most commonly used by HT CPS
 - Coordination of Care
 - Medication Renewal
 - Medication Reconciliation
 - Chart Review
 - Lab Evaluation
 - Drug Recommendation
 - Dose Optimization
 - Initiate Medication
 - Drug Discontinuation
 - ADR Avoidance
 - Patient Education
 - Readmission Prevention
 - Daily Patient Monitoring
 - Patient Identification for HT

READMISSION PREVENTION

- An intervention that causes avoidance of a hospital admission is classified as “Readmission Prevention”
- Most significant intervention that can be made
- All Readmission Preventions are approved by Associate Chief, Clinical Pharmacy Service
- Cost assigned to 1 Readmission Prevention is \$15,254
- Derived from available medical literature

Am J Manag Care 2010; 16(10):769-776.

Heart Lung 2004;33(6):362-371.

HSR April 2008; 43(2):635-655.

Cir Cardiovasc Qual Outcomes 2010;3:33-40.

THERADOC DATA

Intervention Summary 03/25/2013 to 3/20/2014

Number of Interventions

663

Total Intervention Savings

\$164,030.00

Average Intervention Savings

\$247.41

FUTURE DIRECTIONS

- Initiate monthly follow-up on rural patients
 - Weight review
 - Review BP readings
 - Assess symptoms
 - Verify Compliance
- Provision of patient-specific HF education to rural patients admitted with HF
- Utilizing the Morning Dashboard to increase enrollment
- Increased collaboration with Cardiology and PACT
- Strive for readmission rate <5%
- Continue to gather patient feedback to determine Patient Satisfaction with program

QUESTIONS



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