SOUTH TEXAS VETERANS HEALTHCARE SYSTEM
RURAL HOME TELEHEALTH CHF INITIATIVE
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.
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

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


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

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

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
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
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
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
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.
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
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

<table>
<thead>
<tr>
<th>Outcome</th>
<th>FY13 Q2</th>
<th>FY 13 Q3</th>
<th>FY13 Q4</th>
<th>FY14 Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td>HT CHF Readmission Rate</td>
<td>5.45%</td>
<td>2.36%</td>
<td>4.6%</td>
<td>3.14%</td>
</tr>
<tr>
<td>Number of CHF Patients Enrolled in HT</td>
<td>77</td>
<td>91</td>
<td>94</td>
<td>110</td>
</tr>
<tr>
<td>Number of Rural CHF Patients Enrolled in HT</td>
<td>37</td>
<td>49</td>
<td>53</td>
<td>54</td>
</tr>
<tr>
<td>Quarterly BDOC</td>
<td>66</td>
<td>16</td>
<td>65</td>
<td>46</td>
</tr>
</tbody>
</table>
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
Admit Diagnosis: chest pain (03/03/2014)

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

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

IBW: 110 lb (50 kg)

BMI: 21.6 kg/m²

Allergies: CAT DANDER (NAUSEA AND VOMITING--133) (04/02/2014), BACTRIN DS (RASH) (04/02/2014), DOG DANDER (NASAL DISCHARGE--435) (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 (GASTROSOPHAGEAL REFUX) (04/02/2014), CINNAMON (ANXETY) (04/02/2014), AMPHOTERICIN B (HEADACHE) (04/02/2014), CEFEPIME (RASH) (04/02/2014), PEANUT BUTTER (PRURITUS) (04/02/2014), ASPIRIN/CAFFEINE/COCAINE (DYSPNEA--158) (04/02/2014), TOBACCO SMOKE (PRURITUS--133) (04/02/2014), SHELLFISH (AIRWAY CONSTRUCTION) (04/02/2014), APPLES (RASH) (04/02/2014), PLAQUENIL (RASH) (04/02/2014), SNAKE VENOM (RASH) (04/02/2014), CIPROFLOXACIN (NAUSEA AND VOMITING--155) (04/02/2014), ASPIRIN RELATED MEDICATIONS (04/02/2014), AMOXICILLIN/CLARITHROMYCIN/LANSOPRAZOLE (HYPOTENSION--241) (04/02/2014), ZYRTEC 10MG TABLET (DROWSY) (04/02/2014)

INTERVENTION ASSISTANT

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

09/30/2013 12:09
Z2BUNNY, EASTER

Clinical Activity
- Chart Review
- Drug Recommendation or Change
- Lab Evaluation or Recommendations
- psych Suicide Risk Assessment
- psych Clozapine Monitoring

VHASANA 4B MED

Entered by: RECEIVING CLINICIAN: INTERVENTION STATUS: FOLLOW-UP STATUS: ASSOC ALERT: COMMENTS TO TEAM:

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

## THERADOC DATA

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

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Interventions</td>
<td>663</td>
</tr>
<tr>
<td>Total Intervention Savings</td>
<td>$164,030.00</td>
</tr>
<tr>
<td>Average Intervention Savings</td>
<td>$247.41</td>
</tr>
</tbody>
</table>
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
REFERENCES


Internet Citation: Table 4_3_5-1: 2010 National Healthcare Quality and Disparities Reports. February 2011. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/research/findings/nhqrdr/nhqrdr10/4_heartdiseases/T4_3_5-1.html


