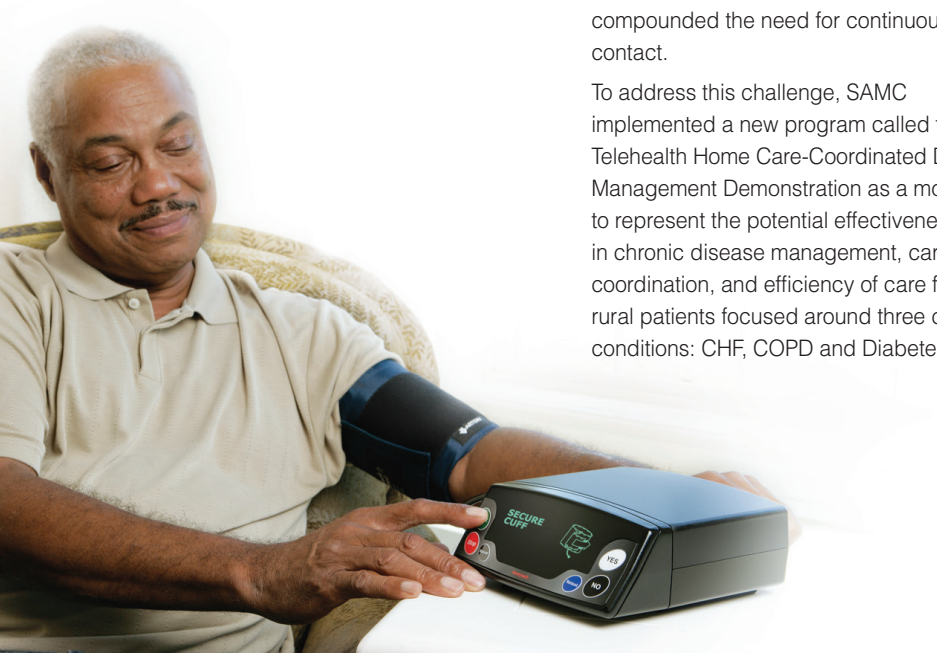
Honeywell HomMed telehealth products and services utilized with high success in telemedicine efficacy study for rural patient population

"With so much of our patient population living in rural North Dakota, home care for patients with chronic conditions who need consistent medical oversight after a major hospitalization can be nearly impossible. Honeywell HomMed telehealth products gave us the solution we needed, and we conducted a study to prove it."

- Tammy Theurer RN,
Director,
St Alexius Homecare & Hospice



In January of 2011, the St. Alexius Medical Center (SAMC) and the Great Plains Telehealth Resource and Assistance Center (gpTRAC) joined forces to evaluate the potential of a new telehealth program. Their goal was to determine whether they could improve access and care for their many patients with chronic conditions who live in rural areas. In order to determine its effectiveness, SAMC and gpTRAC worked together to develop research parameters by which to quantify the results of the program.

The results of the data analysis demonstrated success across five principal topics:

1. **Improved quality of care;**
2. **Improved access to care;**
3. **Reduced hospital readmissions;**
4. **Reduced costs;** and
5. **Achievement of High patient satisfaction** for rural patients with chronic conditions.

Background:

Since its founding in 1885, the St. Alexius Medical Center (SAMC) has been dedicated to serving the residents of central and western North Dakota, northern South Dakota and eastern Montana – a patient population which, to a large degree, lives on rural homesteads and farms. This rural setting presented challenges for the medical staff at St. Alexius to effectively provide post-discharge follow-up care for patients with chronic conditions – a factor which compounded the need for continuous contact.

To address this challenge, SAMC implemented a new program called the Telehealth Home Care-Coordinated Disease Management Demonstration as a model to represent the potential effectiveness in chronic disease management, care coordination, and efficiency of care for rural patients focused around three chronic conditions: CHF, COPD and Diabetes.

The Program

Running a total of 15 months from January 2011 through April 2012, the Telehealth Home Care-Coordinated Disease Management Demonstration project protocol consisted of remotely monitoring patients' biometrics using Honeywell HomMed's Genesis DM monitors and transmitting that data to centrally-located caregivers for analysis, via Honeywell's LifeStream Management Suite.

Following patient discharge for those determined to be eligible for the program, SAMC collected biometric data for the duration of patient enrollment, in addition to recording data points from regular conversations with patients to provide a more comprehensive picture of overall patient health. gpTRAC then performed an analysis in order to quantify the use of telehealth services, measured the quality of services delivered, characterized cost-of-care implications, and portrayed the perceived impact of these services from the patient perspective.

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A few key program details:

- There were a total of 38 patients enrolled from baseline to conclusion of the study;
- The average age of patients in the program was 79;
- All participating patients had one or more chronic conditions; and
- Patients were enrolled in the program for an average of 97.4 days.

The Results

The hospital theorized that among other program goals they would be able to demonstrate increased efficiencies and cost savings around such factors as fewer nurse miles travelled and reduced time per patient encounter, translating to an increased number of patients who could be served and therefore, an increase in access to care.

The results, according to Tammy Theurer, Director, were "excellent!" in terms of meeting all program goals.

A summary of findings included:

- **Substantially reduced hospital readmissions** were demonstrated within the study data: out of 3,701 patient/days of enrollment in project, a total of only 10 re-hospitalizations occurred, with only one within 30 days of initial enrollment (or 0.2 percent falling within the initial 30-day reimbursement-restricted window as opposed to the national average of closer to 20 percent);
- Reducing readmission rates indicated a significant reduction in **costs related to in-person healthcare encounters:** by following up on individual patient alerts, the St. Alexius medical team was able to communicate with the patients remotely and mitigate the need for either the caregiver or the patient to travel a long distance and engage in a costly doctor or hospital visit (which cost an average of $10,600/patient, according to CMS data). In addition, the low numbers of 30, 60 and 90 day re-hospitalizations **resulted in significant positive cost reimbursements** from the Centers of Medicare and Medicaid Services (CMS) and other insurance reimbursement periods.
- An **improved quality of care:** the overall stability of patient clinical biometric measures throughout the study (indicated by the reduction in hospital readmissions) demonstrated effective chronic condition management;
- The large number of caregiver/patient remotely-accessed interactions demonstrated **a high level of access to care for patients;**
- **High levels of patient satisfaction** with the telehealth program were identified:
  - 92% of patients agreed that telehealth (TH) can improve their health;
  - 83% agreed TH can reduce healthcare costs;
  - 84% felt the equipment was easy to use; and
  - 96% agreed that TH was a convenient form of healthcare delivery.

"Although the sample size of this study may not be very large, the results make a strong case for the use of telehealth in chronic disease management in rural settings, and constitute a basis for further research on the implementation of telehealth technologies in rural areas," said Ms. Theurer.

She continued that anecdotally, the program was able to deliver on all of its intended goals.

"We had one patient who was in her mid-90s, on an oxygen tube and taking diuretics each day – which she sometimes simply forgot to take. This would trigger an alert on the nurses' workstation that the patient's blood-oxygen levels were low, resulting in a call from the nurse to remind the patient to take her pill. As a result, the patient was able to stay in her home, and out of the hospital. In addition, knowing this patient had consistent medical oversight gave her family immense peace of mind."

Executives at SAMC concluded that the Telehealth Home Care-Coordinated Disease Management Demonstration program provided a robust interaction point between patients and their caregivers – across the full care continuum that simply would not have been feasible in a traditional care delivery setting. In addition, they stated the "overall effectiveness of the program was best demonstrated in terms of the stabilization of clinical indicators, the relatively low numbers of re-hospitalizations among enrollees, and high levels of satisfaction with the program."

St. Alexius Medical Center is a 306-bed, full-service, acute care medical center offering a full line of inpatient and outpatient medical services, including primary and specialty physician clinics; home health and hospice services; durable medical equipment services and a fitness and human performance center.

Besides the main campus located in Bismarck, North Dakota, St. Alexius owns and operates hospitals and clinics in Garrison, ND and Turtle Lake, ND and manages the hospital and clinics owned by Mobridge Regional Hospital in Mobridge, SD. St. Alexius also owns and operates a primary care clinic in Mandan, ND and specialty and primary care clinics in Minot, ND.

Great Plains Telehealth Resource and Assistance Center (gpTRAC) helps healthcare providers develop and implement telehealth programs, providing support and advice to facilities and organizations as they establish or expand their telehealth programs. The agency serves Minnesota, Iowa, Nebraska, North Dakota, South Dakota, and Wisconsin.

The agency works to advance telehealth program development by offering resources to healthcare providers and organizations interested in telehealth and telemedicine. Its mission is to improve access to quality healthcare through technology.

Key Results among Rural Patients with Chronic Conditions

- Improved quality of care
- Improved access to care
- Reduced costs related to healthcare delivery
- High patient satisfaction rates

Please visit http://www.hommed.com/lifestream-products/genesis-dm/.

To receive an electronic copy of the full study referenced in this case study, please contact the St. Alexius Medical Center at: (701) 530-7000

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