Post-Acute Remote Care Management to Lower 30-day Readmissions

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BACKGROUND

Post-acute home telemonitoring of patients at risk of readmission has been shown to improve 30-day readmission rates [1,2], particularly when the quality of care transition, care coordination, and patient self-management can be enhanced. At University of Virginia Medical Center (UVAMC), we developed a comprehensive post-acute care coordination solution (C3), combining remote clinical services with detailed performance and outcomes analytics to positively impact patients at home and prevent readmissions.

Remote services included:

- Care transition and support
- Daily vitals and symptoms
- Health coaching
- Facilitating intervention by providers and/or ancillary services

We designed and funded the solution with the goal of eliminating future Medicare readmission penalties, but provided C3 services to an All Payer population, tracking both Medicare and All Payer outcomes.

OBJECTIVES

- To determine whether a post-acute care coordination solution utilizing remote care management would lower 30-day all-cause readmission rates
- To identify opportunities to enhance UVAMC's management of post-acute at-risk patient populations, both before and after discharge

METHODS

Eligible patients were identified and enrolled in the C3 program during their index stay in the Medical Center, with the following criteria:

- Primary discharge diagnosis:
  - Acute Myocardial Infarction **(AMI)**
  - Heart Failure **(HF)**
  - Pneumonia **(PN)**
  - Chronic Obstructive Pulmonary Disease **(COPD)**
- Identified based on predicted discharge codes used by Center for Medicare/Medicaid Services (CMS) to determine eligible discharges for the Hospital Readmission Reduction Program
- All payers, including uninsured
- Discharged to patient home (+/- home health service)
- Resident in 11-county geography surrounding UVAMC

UVAMC benchmark readmission rates (all-cause readmits to any acute care facility) were established as follows:

- Medicare benchmarks based on most currently reported Hospital Compare data (evaluation period July 2010 – June 2013) for UVAMC [3]
- All Payer benchmarks as reported by Virginia Hospitals and Healthcare Association for UVAMC (evaluation period September 2012 – August 2013) [4]

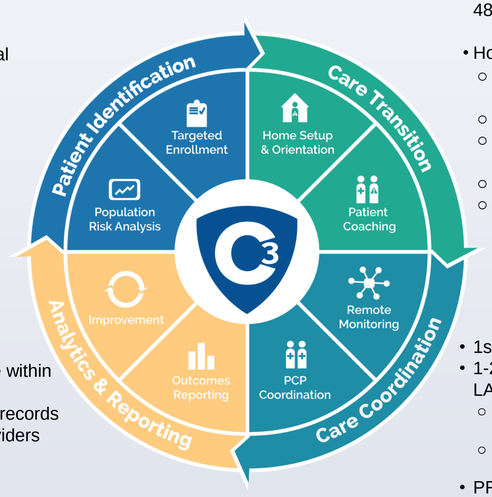
OPERATIONAL MODEL

Patient Identification

- High-risk populations defined in conjunction with UVAMC Quality
- Strong relationship established between C3 liaison and UVAMC clinical staff/case management teams
- Potential patient population charts accessed in EPIC; eligibility established/confirmed by attending rounds on key units
- C3 identified for patients as UVAMC program; program details discussed and consent signed prior to discharge

Analytics & Reporting

- **Epic Integration for real-time trends**
  - Biometric data and RN notes visible within EPIC media tab, updated nightly
  - RN Care Coordinators view patient records in EPIC and communicate with providers via EPIC in-basket
- **Monthly reporting**
  - Summary of eligible vs. enrolled population
  - Summary of compliance/alert interventions
  - Detailed readmissions outcomes/deconstructs



Care Transition

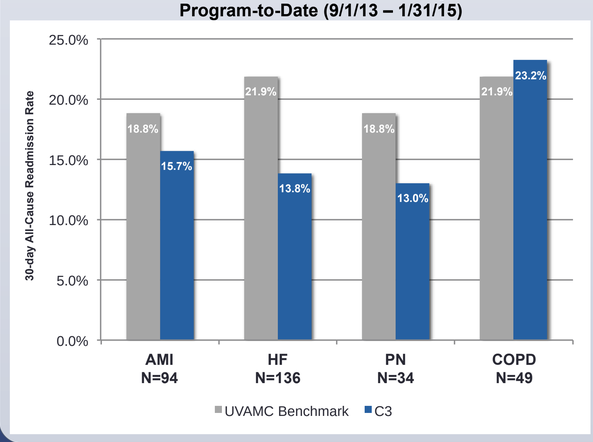
- Home visit (**CNA**) scheduled within 48 hours of discharge
- Home visit includes:
  - Equipment installation and demonstration
  - Review of home environment
  - Review of discharge instructions and follow up appointments
  - Medication review
  - Information communicated back to RN Care Coordinator

Care Coordination

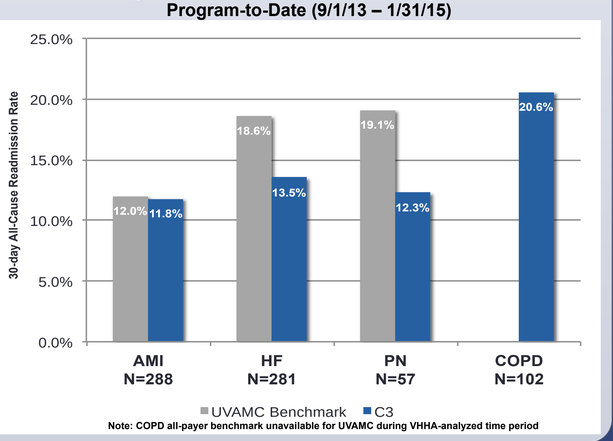
- 1st call (**RN**) within 24 hours of installation
- 1-2 x weekly calls based on condition and LACE score
  - **Week 1** – ensure timely follow up & address acute concerns
  - **Weeks 2-4** – as above plus condition specific coaching and education for self-management
- PRN calls for biometric data outside of parameters
- Close collaboration with providers and ancillary health services as necessary, providing ***the right data at the right time***

RESULTS

Medicare Performance vs. Benchmark, by Condition: Program-to-Date (9/1/13 – 1/31/15)

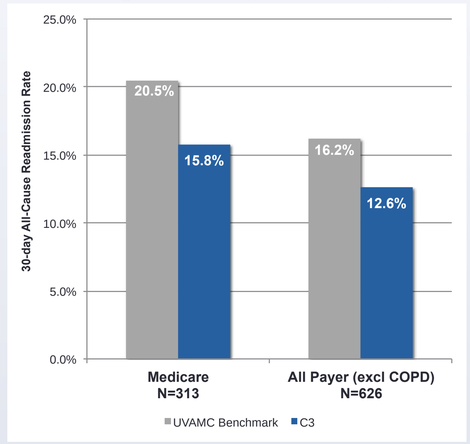


All Payer Performance vs. Benchmark, by Condition: Program-to-Date (9/1/13 – 1/31/15)



Note: COPD all-payer benchmark unavailable for UVAMC during VHHA-analyzed time period

Overall Performance vs. Benchmark: Program-to-Date (9/1/13 – 1/31/15)



C3 successfully improved readmission rate performance in 3 of 4 key conditions both in the Medicare population and on an All Payer basis:

- Where readmission rate performance significantly improved, the percentage improvement ranged from 16% to 37% in the Medicare population, and from 27% to 36% in the All Payer population
- Enrollment: 70.3% of eligible - past 12 months; 75.3% of eligible - past 3 months
- Compliance: 90.4% program to date (based on expected patient participation days)

Opportunities for the Medical Center to improve performance emerged in both the AMI and COPD populations. The C3 team worked with UVAMC to identify specific initiatives for each of these populations, including:

- Creation of a post-acute AMI clinic for patients
- Focus on medication usage for COPD patients in first and second weeks following discharge

CONCLUSIONS

C3 has demonstrated that an integrated platform of care coordination that combines telemonitoring, care coordination, and outcomes analysis is effective in reducing 30-day readmission rates across multiple diagnoses and payer groups.

References

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3. Hospital Profile - University of Virginia Medical Center. CMS Hospital Compare. http://www.medicare.gov/hospitalcompare/.
4. University of Virginia Medical Center: 30-day Readmissions for AMI, Heart Failure, and Pneumonia (August 2012-September 2013). Virginia Hospital and Healthcare Association. 2014.