

Redesigning Low-Risk Chest Pain Management in the Emergency Department

Innovation Care Partners Scottsdale, Arizona

Karen Vanaskie DNP, RN, CCM, ACM-RN, BCPA, CMAC | Deanna Grey, RN | Darin Bonnicksen, RN | Jasmen Erwing, MA | Megan Robinson, BCPA

Innovation Care Physician-led Clinical Integration Network

Accountable Care Organization



Problem:

- All low-risk chest pain patients evaluated in the Emergency Department were admitted and provided cardiac work up in the hospital.
- Consensus guidelines for determining low-risk patients can be found at: <https://emergencymedicinecases.com/low-risk-chest-pain-high-sensitivity-troponin/>

Purpose:

- Innovation Care Partners care management model supports coordinated, high touch, patient centered care of the highest quality and value.
- Align the right care, in the right setting, at the right time.
- Redesign the care pathway for low-risk chest pain patients in the Emergency Department.

Interventions:

- Innovation Care Partners teamed up with the HonorHealth Emergency Department to re-design care of low-risk chest pain patients.
- Home monitoring through high-touch follow-up using HIPAA compliant home monitoring software.
- HIPAA compliant messaging service along with referral management software.
- Ensuring cardiology follow ups are scheduled within 72 hours of an ED visit.
- Appointment completion verified after scheduled cardiology follow up.
- Once verified, the PCP and ED physicians are made aware with a brief follow up through our HIPAA compliant messaging service.

Methodology:

- April 2020
 - ED providers educated in detail on referral process
 - Set up symptom monitoring program after ED visit
 - Scripts and templates provided for Comprehensive Care Coordination
- October 2020
 - ED physicians incentivized for referrals by way of citizenship points within Innovation Care Partners
- Over 2021 this program has been maintained by the Care Management Team at Innovation Care Partners.

Scripting:

"Hello, this patient was seen on (xx/xx/20xx) in the honor health shea campus emergency department: (Patient name, DOB). Referral received for Low-Risk Chest Pain Program. This patient was not scheduled with their Cardiologist because they followed up with their Primary Care Provider (PCP), and they state their problems may have been more gastro related than cardiac ad per their PCP.

In this case, the patient declines the Cardiology referral after seeing their Primary Care Provider. I spoke to the patient about this on (xx/xx/20xx). Let me know if you have any questions - thank you for your referral to the Low-Risk Chest Pain Program. Have a great day."

Script

Hello, my name is (CC NAME) and I am calling on behalf of your Primary Care Doctor (PCP NAME) and your Cardiologist (NAME). I see you had an outpatient procedure of (PROCEDURE TYPE) done on (DATE) at Honor Health (NAME OF HOSPITAL). I would like to take a few minutes to go over some things with you.

*Questions for discharge follow up call

- How are you feeling now that you are home?

Heart Specific Clinical Questions:

- Are you feeling any shortness of breath or difficulty breathing?
- Any new chest pain or chest tightness?
- Any fatigue or lack of energy?

- Briefly, can you tell me what the procedural discharge instructions state?

- Based on their response: Your discharge instructions state to make a follow up appt with your cardiologist within x days (7-14days), have you been able to do that? If not, would you like my help with this?
- I would like to follow up with you again after your appointment with your cardiologist on (DATE).

- Were you able to pick up your prescription medications?

- Do you have support at home?

- Is there anything else that I can help you with?

Results:

We set a goal to collect key metrics during this pilot:

- Referrals by Hospital
- Successful outreach to patients post ED discharge.
- Completed Cardiology Appointments volume & percentage by hospital and system wide
- Symptom monitoring
- Readmission within 30 days
- Cost of care

Referrals using this process went from 8 - 131 referrals per month over 6-month period.

A reduction of potentially \$1200/case (est.-admission stay) - savings \$818,400 in 8 months. We had over 53% completed appointments system wide and per our six acute hospitals we had 43% - 66% completed appointments.

On average, 12% of the patients were back in the ED with in 30 days but only one was readmitted.

Clinical Team continues to have 100% successful outreach to patients post discharge from emergency department with low-risk chest pain.

Data and Figures:

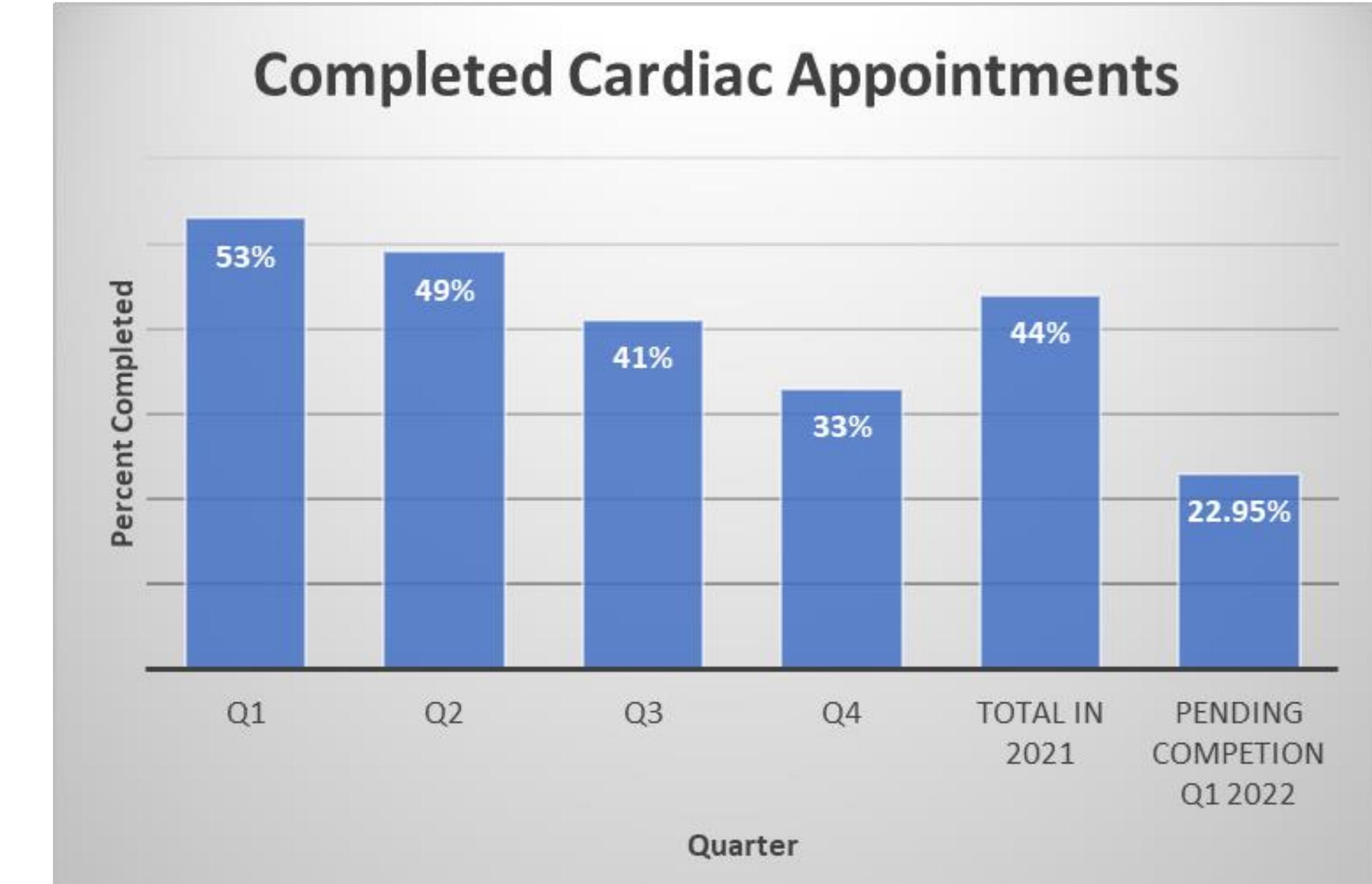
Figure #1: Total LRPC Referrals



Data and Figures:

Figure #2: Completed appointments

*Reduction of appointments in Quarter 4 of 2021 due to COVID-19 surge during this time.



Conclusion:

- Our new care redesign is focused on patients evaluated in the emergency department (ED) and screened to be at low-risk for any serious outcomes related to their chest pain; our previous practice was to admit these patients and complete an initial cardiac workup.
- Our new care redesign efforts have demonstrated a nearly 1-million-dollar savings for patient care.
- The redesign also creates a safe passage and close follow up for those patients being discharged from the emergency room with low-risk chest pain (LRCP).
- This new care re designed for low-risk chest pain is easily replicated and has been innovative in many ways: such as use of key technology for improved communication and for closer patient monitoring.

Special Acknowledgment to our Physician Leadership:

Mayur Bhakta, M.D. Kris Samaddar, MD Robin Samaddar, MD
(Interventional Cardiologist) (Emergency Department Physician) (Emergency Department Physician)

References:

- Erica Schenhalis, Paul Haidet, Lawrence Edward Kass, Barriers to compliance with emergency department discharge instructions: lessons learned from patients' perspectives, Internal and Emergency Medicine, 10.1007/s11739-018-1943-6, 14, 1, (133-138), (2018).
- Healthcare Cost and Utilization Project (HCUP). HCUP Home. Agency for Healthcare Research and Quality Web site. Updated November 2017. <https://www.hcup-us.ahrq.gov>. Accessed 20 Dec 2018.
- Martsolf, G.R., Nuckols, T.K., Finger, K.R. et al. Nonspecific chest pain and hospital revisits within 7 days of care: variation across emergency department, observation, and inpatient visits. *BMC Health Serv Res* 20, 516 (2020). <https://doi.org/10.1186/s12913-020-05200-x>
- Mourmeh T, Sun BC, Baeker A, et al. Identifying patients with low-risk of acute coronary syndrome without troponin testing: Validation of the HEAR score. *Am J Med* 2020 Oct 27:S0002-9343(20)30906-2. doi: 10.1016/j.amjmed.2020.09.021.
- Noel-Miller C, Lind K. Is observation status substituting for hospital readmission? <http://healthaffairs.org/blog/2015/10/28/observation-status-substituting-for-hospital-readmission/>. Accessed 20 Dec 2018.
- Susan N. Hastings, Karen M. Stechukach, Cynthia J. Coffman, Elizabeth P. Mahanna, Morris Weinberger, Courtney H. Van Houtven, Kenneth E. Schmader, Cristina C. Hendrix, Chad Kessler, Jaime M. Hughes, Katherine Ramos, G. Darryl Wieland, Madeline Weiner, Katina Robinson, Eugene Oddone, Discharge Information and Support for Patients Discharged from the Emergency Department: Results from a Randomized Controlled Trial, *Journal of General Internal Medicine*, 10.1007/s11606-019-05319-6, (2019).
- McCord J, Cabrera R, Lindahl B, Giannitsis E, Evans K, Nowak R, Frisoli T, Body R, Christ M, deFilippi CR, Christenson RH, Jacobsen G, Alquezar A, Panteghini M, Melki D, Lebani M, Verschuren F, French J, Bendig G, Weiser S, Mueller C; TRAPID-AMI Investigators. (2017) Prognostic utility of a modified heart score in chest pain patients in the emergency department. *Circ Cardiovasc Qual Outcomes*. 2017; <https://www.ahajournals.org/doi/10.1161/CIRCOUTCOMES.116.003101>
- Simon A. Mahler, MD, MS, Kristin M. Lenoir, MPH, Brian J. Wells, MD, PhD, Gregory L. Burke, MD, MSc, Pamela W. Duncan, PhD, L. Douglas Case, PhD, David M. Herrington, MD, MHS, Jose-Franck Diaz-Garelli, PhD, Wendell M. Furrell, BS, Brian C. Hiestand, MD, MPH, Chadwick D. Miller, MD, MS. (2018) Safely Identifying Emergency Department Patients With Acute Chest Pain for Early Discharge. *Volume 138, Issue 22, 27 November 2018; Pages 2456-2468* <https://doi.org/10.1161/CIRCULATIONAHA.118.036528>
- Polderervaart JM, Reitsma JB, Backus BE, Koffijberg RF, Ten Haaf ME, Appelman Y, Mannaerts HFJ, van Dantzig M, van den Heuvel E, El Farissi M, Rensing BJWM, Ernst NMSKJ, Dekker IMC, den Hartog FR, Oosterhof T, Lagerweij GR, Buijs EM, van Hessen MWJ, Landman MAJ, van Kimmenade RRJ, Coijnsen L, Bux JJJ, van Ofwegen-Hanekamp CEE, Cramer MJ, Six AJ, Doevendans PA, Hoes AW. (2017) Effect of using the HEART score in patients with chest pain in the emergency department: a stepped-wedge, cluster randomized trial. *Ann Intern Med*. 2017;166:689-697. doi: 10.7326/M16-1600 Crossref. PubMed