



Presentation Title: MIH utilization in re-admission reduction

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I. Formative Evaluation – Planning

Our program utilized patient follow-up within an evidence-based timeframe to reduce re-admission rates in patients discharged from acute care hospitals with a diagnosis of ST-Elevation Myocardial Infarction or Non-ST-Elevation Myocardial Infarction (STEMI/NSTEMI), or “heart attack.”

Before implementation, a local acute care hospital reported an average readmission rate in this patient population of 15.8% (the national average is 16%). The project goal was to reduce 30-day readmission rates of participating patients to 10% over six months.

The project identified: Can Mobile Integrated Health/Community Paramedicine programs reduce readmission rates for patients discharged from acute care facilities? The needs assessment considered 30-day readmission rates, specifically for STEMI/NSTEMI patients. Readmissions within 30 days not only cause a setback in the patient’s care and recovery but also cause the acute care facility to incur a financial penalty. The narrow focus on STEMI/NSTEMI patients was due to a lack of specific programs through the acute care facility that addresses this specific service line. Therefore, our data can be reliable as truly being a direct result of interventions of the Community Paramedic program.

II. Process Evaluation – Implementation

A discovery group comprised the Assistant Chief of EMS and Community Paramedic Lead for the Fire Department and the Emergency Room Manager, Case Management Director, and Cardiac Nurse Manager for the Hospital met. After identification of the patient population and preferred interventions, the program was presented to the Cardiology Physicians for information and feedback as to the benefits and feasibility of the program. The Internal Medicine Physicians and the hospital Executive Team met to discuss program costs and potential funding models if the benefit was proven. From there, we developed an agreement with the hospital regarding the flow of patient information and access to such information from outside the hospital network.

The referral process took over three months to identify, eventually deciding that the case managers would send a secure email to the Community Paramedic Lead with referral information for the patient. To protect patient Protected Health Information (PHI), the case managers presented the program to the patient to obtain their permissions before referral. After receiving the referral, the fire department attempted to introduce the program to the patient before discharge. If unable to see the patient before discharge, the patient was contacted by phone to set up the post-discharge appointment. In-home visits were set up ideally within 48 hours of discharge. Evidence-based research regarding post-discharge follow-up interventions in this patient population suggested that in-home follow-up within 48 hours post-discharge resulted in the most significant reduction in 30-day readmission rates.

The visit comprised a medication review, reinforcement of the discharge instructions, and emphasis on the need to attend physician follow-up appointments as well as a check of vital signs and a baseline EKG. There was no time limit for the interactions; visits ranged from 45 minutes to three hours depending on the amount of education needed and questions the patient and the family had.

Subsequent visits and contact varied from patient to patient. Patients who were non-compliant or had extensive social and financial challenges were often evaluated in person more often than patients who had a greater support system and understanding of disease processes and medications. Patients received at least one follow-up phone call one week after the initial visit to address any additional concerns, and patients were encouraged to contact the on-call Community Paramedic provider if there were any questions or concerns.

III. Impact Evaluation – Short-Term Results

The impact was nothing short of impressive. Since the program's implementation on May 1st, 2019, 76 patients have been referred for evaluation. Twenty-five patients have elected to participate in the program with 51 declining services for a variety of reasons. Of the patients that participated, only one has been readmitted within 30 days, representing a 4% readmission rate. The patients that were referred and chose not to participate had a 12% 30-day readmission rate. Even more notably, not only were the participating patients not readmitted, but outside of two patients in the first month, none have returned to the emergency room or admitted to a hospital for observation. Outpatient care was proved effective patient management by taking medications as prescribed, compliance with discharge instructions, and proper follow-up with physicians and cardiac rehab.

IV. Outcome Evaluation – Long-Term Results

If the success of the first few months continues, the overall health of the community can be significantly improved. Not only will this assist in reducing the strain on the acute care facilities and emergency departments, but patients can receive treatment in the least restrictive setting and assists in Emergency Medical Services transitioning to a truly preventative program instead of a reactive program. For every readmission prevented, the hospital saves an average of ten thousand dollars. The true cost savings system-wide are not realized as of yet but will likely be significant.

Conclusions:

Other valuable information learned from this program was that patient satisfaction with the hospital stay, anecdotally, was higher due to the Community Paramedic program used as an extension of the hospital's care post-discharge. The program is investigating methods to increase participation of referred patients, such as including the program information in formal discharge teaching, as well as additional cardiologist buy-in, and presenting this as a highly recommended post-discharge care. The likelihood of providing the same interventions to different service lines, such as sepsis and diabetic ketoacidosis, are also being explored once additional staffing permits.