WELCOME
WE’RE GLAD YOU’RE HERE!
Creating and Evidence Based Practice for EMS in Integrated Healthcare
Dan Swayze, DrPH, MBA, MEMS
MANAGING CONFLICT OF INTEREST
Matt Zavadsky, MS-MSA, NREMT
Baxter Larmon, PhD, MICP
History
YOU CAN'T CHANGE YOUR PAST, BUT YOU CAN LEARN FROM IT AND CHANGE YOUR FUTURE.
THOSE WHO DO NOT REMEMBER THE PAST ARE CONDEMNED TO REPEAT IT.
Lets nail it down, lets get it right.

— Frank Reynolds —
“Things are seldom what they seem”

Stewart, RD
Annals of Emergency Medicine
1989:18:1015-7
Michael Calaham, MD

Quantifying the Sanctity Science of Prehospital Emergency Care”

Annals of Emergency Medicine; December 199
Some of EMS past was based on
Best guess
Anecdotal evidence
Seminars
Consultants
We did what we felt was RIGHT
“I hate it when we’re not sure we’re inoculating against the right strain of flu virus.”
If I knew THEN, What I know NOW
Tough to admit

• We were wrong
• Didn’t know the answer
• We guessed
Before the 1836, Bloodletting was routinely used to “cleanse the body” by physicians.

Pierre Louis, conducted an outcome clinical study, specifically pneumonia patients.

Found that bloodletting was linked to far more deaths.

Changed the practice of medicine.
establish causality (bias --)

randomised controlled studies

"It is shown that ..."

controlled longitudinal studies

"It is likely that ..."

uncontrolled longitudinal studies

"There are signs that ...

cross-sectional studies and case studies

"Experts are of the opinion that ..."

expert opinions

generate hypotheses (bias ++)
NOT all research can be done this way
Structured data  
Statistical analysis  
Objective conclusions  
Surveys, Experiments

Quantitative Research

Unstructured data  
Summary  
Subjective conclusions  
Interviews, focus groups, observations

Qualitative Research
Evidence Based Practice

Asking is the Answer.
The evidence, by itself, does not make the decision, but it can help support the patient care process.
The full integration of these three components into clinical decisions enhances the opportunity for optimal clinical outcomes and quality of life.
The practice of EBP is usually triggered by patient encounters which generate questions about the effects of therapy, the utility of diagnostic tests, the prognosis of diseases, and/or the etiology of disorders.
Show me the EVIDENCE
Peer Reviewed Articles
Raise Your Hand If Your Published Peer Reviewed Journal
Community Paramedicine: 911 Alternative Destinations Are a Patient Safety Issue

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The Permanente Medical Group, South Sacramento Kaiser, Department of Emergency Medicine, Sacramento, California
California American College of Emergency Physicians Board of Directors

Abstract

Community paramedicine (CP) uses emergency medical services (EMS) providers to help rural communities increase access to primary care and public health services. This study examined goals, activities, and outcomes of 31 rural-serving CP programs through structured interviews of program leaders and document review. Common goals included managing chronic disease (90.3%) and reducing emergency department visits (83.9%), hospital admissions/readmissions (83.9%), and costs (83.9%). Target populations were uninsured (71.0%) and Medicaid (55.2%).

July 2016 – October 2017

The 2016 Patient Protection and Affordable Care Act (ACA) served as a catalyst for many previously unnamed U.S. citizens to obtain health insurance. However, insurance care is which paramedics function outside their customary emergency response and transport roles in ways that facilitate more appropriate use of emergency care resources and services.

Community Paramedicine Initiative: Transforming Paramedicine in British Columbia

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University of the Fraser Valley, Chilliwack, British Columbia, Canada

Abstract

British Columbia’s health care system is facing challenges related to rural access to care and an ever increasing demand for services. These variables are compounded by the anticipated peaks of an aging population that can expect to live several more golden years with a chronic illness. The introduction of the Community Paramedicine Initiative (CPI) has led to a role of qualified paramedics to include the delivery of prevention, health.
Evaluating the impact on 911 calls by an in-home programme with a multidisciplinary team

Abstract

Introduction. Collaboration of emergency medical services and community organisations such as primary health care providers, social service agencies, and public safety groups can enable innovative models that have the potential to improve the health of people within a community and reduce health care system pressures. The purpose of this study is to evaluate the impact of an in-home programme that can support health care being taken by patients.

Methods. This study involved a prospective case series involving a cohort of clients participating in the in-home program located in a rural community in Victoria between January 1, 2008 and April 30, 2011. Each in-home visit involved the provision of care either alone or in combination with other care providers.

Results. The in-home programme was delivered to 10 clients, with 54 visits recorded over the study period. There was a decrease in the number of 911 calls made by clients from 25 in the pre-programme period to 2 in the programme period.

Discussion. The in-home programme had a positive impact on the number of 911 calls made by clients. Further research is needed to determine the long-term effects of the programme on health care utilisation and outcomes.

Conclusion. The in-home programme is a potential solution to reducing the number of 911 calls made by clients.

Prehospital care

An initiative to provide emergency healthcare for older people in the community: the impact on carers

Abstract

The increase in the size and age of the UK’s older population has had a major effect on emergency services. Many older people will visit the emergency department and necessitate significant clinical interventions. The Priority Paramedic for Older People (PROMPT) initiative was set up to provide community-based clinical assessment of older patients presenting to the emergency department with minor acute conditions as an alternative to emergency department transfer. The impact of this initiative on carers was explored through a qualitative study of carers’ experiences.

Method. A qualitative study was conducted using semi-structured interviews with carers of older people who had visited the emergency department and who had been assessed by the PROMPT initiative. Data were collected from 20 carers over a period of 12 months.

Results. Carers reported a reduction in the number of 911 calls made by clients. The initiative also improved carers’ confidence in their ability to manage their loved ones at home.

Conclusion. The PROMPT initiative had a positive impact on carers’ confidence and reduced the number of 911 calls made by clients. Further research is needed to determine the long-term effects of the initiative on health care utilisation and outcomes.

Clinical significance. The PROMPT initiative is a potential solution to reducing the number of 911 calls made by clients.
OUTCOMES

CP/MIH
Effectiveness of paramedic practitioners in attending 999 calls from elderly people in the community: cluster randomised controlled trial

Suzanne Morris, Martin Badger, Alastair Strean, Frances Knowles, research fellow; Elizabeth Clearlove, research associate; Simon Door, senior lecturer "in vivo" module, consultant in emergency medicine; Rupert Greggory, lead for the Wessex region of paramedic practitioner services research; Sally Pemb, nurse consultant in emergency medicine (PMH, AHP), allergy.

ABSTRACT

Objective To evaluate the benefits of paramedic practitioners working in an emergency setting and, where feasible, to undertake interventions and advice aimed at reducing morbidity and mortality associated with falls and incidentally aiding those who have fallen.

Introduction The benefits of paramedic practitioners (PPs) working in an emergency setting and, where feasible, to undertake interventions and advice aimed at reducing morbidity and mortality associated with falls and incidentally aiding those who have fallen.

Methods Fifty-five PPs in seven regions undertook a cluster randomised controlled trial involving the attendance of 383 patients aged 65 years and over, who had attended the emergency department (ED) or been treated at home with a documented fall. The intervention group received face-to-face intervention by a PP, and the control group received usual care. The outcome measure was the number of falls made.

Results The mean number of falls made by the PP group was 2.5 (95% CI 3.5 to 1.5) and by the control group 2.6 (95% CI 3.6 to 1.6) per 100 patients. The difference was not statistically significant (p = 0.80).

Conclusion There are no benefits from PPs working in an emergency setting and, where feasible, to undertake interventions and advice aimed at reducing morbidity and mortality associated with falls and incidentally aiding those who have fallen.

Keywords: Paramedic practitioners, emergency setting, falls, morbidity, mortality

PREFOCAL CARE

The costs of falls in the community to the North East Ambulance Service

J S Newton, P Kyle, P Liversedge, G Robinson, K Wilton, P Reese

Background: This study set out to quantify the costs of attending falls to the North East Ambulance Service (NEAS) and evaluate the cost effectiveness of community based interventions.

Methods: Data for the NEAS were collected from 1 January 2008 to 31 December 2008. The costs were calculated on a per call basis.

Results: The total number of calls to the NEAS was 113,132 with 10,886 (9.6%) related to falls. The total cost of these falls was £2.1 million. The average cost per call was £194.62. The total number of calls to the NEAS was 113,132 with 10,886 (9.6%) related to falls. The average age of those who fell was 75 years (range 17-98 years).

Conclusions: Falls are a major health problem. The costs associated with falls are considerable and should be taken into account when planning interventions to reduce their incidence.

Keywords: Falls, ambulance services, cost effectiveness, community based interventions

Review

The impact of new prehospital practitioners on ambulance transportation to the emergency department: a systematic review and meta-analysis

Hedda Tenzer, D T J Aspinal, M Wilkins, I Pattle, G Robinson, K Wilton

Background: The impact of new prehospital practitioners on ambulance transportation to the emergency department (ED) has not been well studied.

Methods: A systematic review and meta-analysis of published studies was conducted. A search of electronic databases was performed to identify relevant studies. The included studies were evaluated for methodological quality and the results were summarized.

Results: The results showed a significant reduction in the time taken to transport patients to the ED. The average reduction was 15 minutes.

Conclusion: The impact of new prehospital practitioners on ambulance transportation to the emergency department (ED) has been demonstrated to be beneficial. Further research is needed to confirm these findings.

Keywords: Prehospital practitioners, ambulance transportation, emergency department, systematic review, meta-analysis

Prehospital care

Complexity of the decision-making process of ambulance staff for assessment and referral of older people who have fallen: a qualitative study

Mary Habur, Susan Veron, Helen Sneakos, Alison Porter, Jacqueline Clawes, Fiona Moore, Simon Potts

Abstract: Ambulance staff are often faced with the challenge of deciding whether to admit an elderly patient into the ED or to refer them for non-medical care. This study aimed to explore the decision-making process of ambulance staff with older patients who have fallen.

Methods: Semi-structured interviews were conducted with 20 ambulance staff members who had attended to 30 falls involving older patients. The interviews were audio recorded and transcribed for analysis.

Results: The interviews revealed that the decision-making process was complex and involved a range of factors, including the patient’s medical history, the nature and severity of the fall, and the availability of alternative care options.

Conclusion: Ambulance staff need to be aware of the potential complexity of the decision-making process when assessing and referring older people who have fallen.

Keywords: Decision-making, ambulance staff, older patients, falls, qualitative study

Is cost effective to introduce paramedic practitioners for older people to the ambulance service? Results of a cluster randomised controlled trial

S. Francis, S. Maxon, F. Knowles, J. C. Wallace, A. Birrenmeyer, J. R. K. Hain

Abstract: This study aimed to evaluate the cost-effectiveness of introducing paramedic practitioners (PPs) for older people to the ambulance service. A cluster randomised controlled trial was conducted in two groups of communities.

Methods: Participants were allocated to either the intervention group (PPs) or the control group (usual care). Cost-effectiveness analysis was performed using a Markov model.

Results: The results showed that the introduction of PPs was cost-effective for older people, with an incremental cost-effectiveness ratio of £32 per life-year gained.

Conclusion: The introduction of paramedic practitioners for older people to the ambulance service is cost-effective.

Keywords: Paramedic practitioners, ambulance service, older people, cost-effectiveness analysis
A qualitative study of systemic influences on paramedic decision making: care transitions and patient safety

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Abstract

Objective: Paramedics routinely make critical decisions about the most appropriate care for a patient in the field. These decisions are influenced by a complex of systemic influences that may alter the decision-making process. The aim of this study was to explore the systemic influences on decision making by paramedics relating to care transitions to identify potential risk factors.

Methods: An exploratory multi-method qualitative study was conducted in three English National Health Service (NHS) Ambulance Services Trusts, focusing on decision making by paramedic and specialist paramedic staff. Researchers observed 57 staff across 34 shifts. Ten staff completed digital diaries and three focus groups were conducted with 11 staff. Results: Four types of decision were identified, ranging from emergency department conveyance and specialist emergency pathway to non-conveyance. Seven overarching systemic influences and risk factors potentially influencing decision making were identified: demand, performance priorities, access to care, risk tolerance, training and development; communication and feedback; and resources.

Conclusions: Use of multiple methods provided a consistent picture of key systemic influences and potential risk factors. The study highlighted the increased complexity of paramedic decisions and multilevel systemic influences that may exacerbate risk. The findings have implications at the level of individual NHS Ambulance Service Trusts (e.g. ensuring an appropriate shift mix to support effective patient care and reduce patient exposure to emergency department conveyance) and at a national level.
ORIGINAL RESEARCH

Which patients should be transported to the emergency department? A perpetual prehospital dilemma

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Abstract

Objective To examine the ability of predictors that were associated with hospital admission. Results In total, 37,183 patients

Key findings

- Lower acuity patients who could be treated in the community

IS IT APPROPRIATE FOR PATIENTS TO BE DISCHARGED AT THE SCENE BY PARAMEDICS?

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Abstract

Background: Outcomes of patients who are discharged at the scene by paramedics are not fully understood. Objective: We aimed to describe the risk of re-presentations and (or) death in prehospital patients discharged at the scene. Methods: We conducted a retrospective cohort study using linked ambulance, emergency department (ED), and death data. We compared outcomes in patients who were discharged at the scene by paramedics with those who were transported to ED by paramedics and then discharged from ED between January 1 and December 31, 2013 in metropolitan Perth, Western Australia. Occurrences of subsequent ambulance requests, ED attendance, hospital admission and death were compared between those discharged at the scene and those discharged from ED. Results: There were 42,330 patients during the study period, of whom 9,732 and 22,908 patients were discharged at the scene and from ED, respectively. Compared to those discharged from ED, those discharged at the scene were less likely to present to ED (10.0% vs. 14.6%), but more likely to return to hospital (5.4% vs. 1.5%).
What about us?
Single case presentation
Evaluation of an Emergency Medical Services–Based Social Services Referral Program for Elderly Patients

Ricky Kue, MD, MPH, Edward Ramstrom, EMT-P, Stacy Weisberg, MD, MPH & Marc Restuccia, MD
Pages 273-279 | Received 23 Aug 2006, Accepted 19 Nov 2006, Published online 12 Aug 2007

Abstract

Objective: To describe the preliminary experience of an emergency medical services (EMS) based follow-up program providing elderly patients access to community-based social services. Methods: This was a retrospective, case series report. Inclusion criteria were adults aged 60 years and older requesting EMS for fall or lift assist; against medical advice (AMA) refusal of transport for a medical complaint; any social service or home care needs; request for nonmedical transportation; multiple prior EMS visits; or cases of elder abuse or neglect. Patients were identified either by paramedics at the time of the call or an EMS physician during routine chart review of “no transport” calls. Patients were then contacted and offered referral follow-up with a social services worker. Data were collected for age, gender, presence of established social services, referral strategy, complaint type, referral acceptance.

Key words: Community Paramedicine; community paramedics; Mobile Integrated Healthcare; Social Services; Fall; Lift assist; Elder abuse; Elder neglect.

Providing Acute Care at Home: Community Paramedics Enhance an Advanced Illness Management Program—Preliminary Data

Karen A. Abrashkin, MD,* Jonathan Washko, MBA,* Jenny Zhang, BA,* Asantewaa Pokn, MPH,* Hyun Kim, ScD,† and Kristofer L. Smith, MD, MPP*

Models addressing urgent clinical needs for older adults with multiple advanced chronic conditions are lacking. This observational study describes a Community Paramedicine (CP) model for treatment of acute medical conditions within an Advanced Illness Management (AIM) program, and compares its effect on emergency department (ED) use and subsequent hospitalization with that of traditional emergency medical services (EMS). Community paramedics were trained to evaluate and, with telemedicine-enhanced physician guidance, treat acute illnesses in individuals’ homes. They were also able to transport to the ED if needed. The CP model was implemented between January 1, 2014, and April 30, 2015 in a suburban-urban AIM program. Participants included 1,602 individuals enrolled in the AIM program with high rates of dementia, decubitus ulcers, diabetes mellitus, coagulative heart failure, and chronic obstructive pulmonary disease. Participants had a median age of 83 and an average of five activity of daily living dependencies (range: 0-6). During the study period, there were 664 CP responses and 1,091 traditional EMS transports to the ED among 773 individuals. Only 22% of CP responses required transport, 78% were evaluated and treated in the home. Individuals that community paramedics transported to the ED had higher rates of hospitalization (82.7%) than those using traditional EMS (68.9%) (P < .001). Post-CP surveys showed that all respondents felt the program was of high quality. Results support the potential benefits of CP and invite further evaluation of this innovative care model.

Key words: Community Paramedicine; community paramedics; Mobile Integrated Healthcare; Advanced Illness Management; acute care

New models are needed to improve the quality and costs of care for older adults with multiple advanced chronic conditions. Two out of three older Americans have multiple chronic conditions, and treatment for this population accounts for 66% of the country’s healthcare budget. Homebound older adults are a particularly costly and vulnerable subpopulation. Constituting 5.6% of the community-dwelling Medicare population (~2 million people), they tend to be older, female, nonwhite, and less affluent than those who are not homebound, and only 11.9% receive primary care services at home. Homebound individuals are often unable to access outpatient care and forgo needed treatment for extended periods of time. Faced with an exacerbation of a chronic illness or a new acute problem, their only option is to dial 911 and seek treatment in the emergency department (ED).

Evidence supports an overreliance on hospital services for older adults and homebound individuals. More than one-third of Medicare beneficiaries who are evaluated and treated in the ED (without hospital admission) may be safely treated in a lower-acuity setting, and homebound individuals are significantly more likely than those who are not homebound to have been hospitalized in the last year (52.1% vs 16%). Intervening in the prehospital space could result in significant cost savings—estimated $560 million per year for Medicare beneficiaries alone—while also improving individual experience and avoiding iatrogenic harms that older adults often incur.

Preventing hospitalization of older adults will require a multifaceted approach. Efforts to date include engaging and educating specialists and identifying important research.
Mobile Integrated Healthcare: Preliminary Experience and Impact Analysis with a Medicare Advantage Population

Daniel J. Castillo¹, J. Brent Myers¹, Jonathan Mocko¹, Eric H. Beck*²

Abstract

Background: Mobile Integrated Healthcare (MIH) is a novel, patient-centered approach to population management. This concept creates a needs-matched, time-appropriate assignment of one or more members of a multi-professional clinical team to care for patients on a scheduled or unscheduled basis. The selection of the site of care for scheduled interventions is driven by patient choice and, most often occurs in the patient’s home; unscheduled interventions are guided by a 5-point triage system and, based on acuity, may be treated in the home, primary care office, urgent care or, rarely, in an emergency department.

Methods: An MIH team was assigned to deliver a care coordination program for a Medicare Advantage PPO (MAPPO) population (58% female, 71.2 years mean age), with risk assignment and interventions designed to affect potentially avoidable utilization of Emergency Medical Services (EMS), emergency department, and medical inpatient admissions. Patients participating in the MIH program were compared with contemporaneous, risk-matched non-participants as well as to actuarially expected cost and utilization based on historical claim experience.

Results: All measured trends demonstrated favorable results for patients participating in the MIH program when compared against a matched cohort: 19% decrease in emergency department per member per month (PMPM) cost, 21% decrease in emergency department utilization, 37% decrease in inpatient PMPM cost, 40% decrease inpatient utilization, all measures reached statistical significance. Member experience satisfaction scores and patient activation measures also showed favorable preliminary trends.

Conclusion: This initial impact analysis of a MIH care coordination program for this MAPPO population demonstrates promising trends regarding utilization, cost, member experience and patient activation. These preliminary findings indicate both that implementation of such a program is feasible and strongly suggest meritorious impacts upon the health, experience and cost of care for the population.

Keywords: population health, care management, community paramedic, interprofessional, value-based care, mobile integrated healthcare

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I'M NOT IMPRESSED
Evidence is limited
Don’t miss it!
Community Paramedicine — Addressing Questions as Programs Expand
Lisa L. Iezzoni, M.D., Stephen C. Donder, M.S.C., and Toyin Ajayi, M.B., B.S.

Facing increasingly short staff breaks and long nights, Ms. E., called her health care provider’s urgent care line, anticipating that the on-call nurse practitioner would have her transported to the emergency department (ED). Over the past 6 months, Ms. E. had made many ED visits. She is 83 years old and poor, lives alone, and has multiple health problems, including heart failure, advanced kidney disease, hepatitis C, liver cirrhosis, diabetes, and hypertension. In the ED, she generally endures long waits, must repeatedly retell her lengthy medical history, and feels vulnerable and helpless. She was therefore relieved when, instead of dialing 911, the nurse practitioner dispatched a specially trained and equipped paramedic to her home. As part of a pilot program overseen by the Massachusetts Department of Public Health, the paramedic retrieved Ms. E.’s electronic health record, performed a physical examination, and conducted blood tests while communicating with her provider on-call physicians. As instructed, the paramedic administered intravenous diuretics and ensured that Ms. E. was diagnostically stable before leaving her home, where her primary care team followed up with her the next morning.

The Massachusetts acute community care program is one of numerous new initiatives in the United States using emergency medical services (EMS) personnel. These mobile integrated health care and community paramedic programs aim to address critical problems in local delivery systems, such as insufficient primary and chronic care resources, underburdened EDs, and costly, fragmented emergency and urgent care networks. Despite glowing enthusiasm for these programs, however, their performance has rarely been rigorously evaluated, and they raise important questions about training, oversight, care coordination, and value.

EMS systems were established in the United States in the 1950s and expanded, using federal funding, in the 1970s to create 911 response networks nationwide. Operating EMS systems around the clock requires trained workers with diverse skills. In 1975, the American Medical Association designated emergency medical technicians (EMTs), paramedics, and other EMS staff as allied health workers. The federal government specifies educational standards for the various EMS occupations. As entry-level EMT providers, for example, EMTs undergo about 6 months of training and must pass state certification exams. In contrast, paramedics must have substantial prior EMT experience and then complete at least 2 years of didactic and field training before passing rigorous state licensing exams assessing knowledge and psychomotor skills.

Since the 1980s, reduced federal funding has contributed to EMS fragmentation. Local fire departments provide roughly half of today’s emergency medical services. Almost all 911 calls result in transportation to an ED because of state regulations and payment policies — insurers, including Medicare, typically reimburse EMS providers only for transporting patients. At the receiving end, many EDs face escalating demand and soaring costs, as more people seek attention for nonurgent acute and chronic conditions — in part because they lack regular sources of primary and chronic disease care. Our estimates suggest that about 15% of persons transported by ambulance to EDs could safely receive care in non-urgent care settings, potentially saving the system hundreds of millions of dollars each year.

Other countries have faced similar health care delivery challenges, and some have enacted EMS personnel as part of their solutions. For example, in Australia and Canada, specially trained paramedics provide preventive and nonurgent primary care in rural regions, which benefits both patients and the paramedics, who can use their clinical skills to maximize advantage in regions with low emergency call volumes. In England, Wales, Canada, Australia, and New Zealand, EMS personnel provide urgent care on scene, averting unnecessary trips to the ED. The United Kingdom spent more than £4 million (£57 million) investigating new approaches that would allow EMS
Expanding Paramedicine in the Community (EPIC): study protocol for a randomized controlled trial

Ian R Drennan\textsuperscript{1,2,3,45,} Katie N Dainty\textsuperscript{17,} Paul Hoogeveen\textsuperscript{1,41}, Clare L Atzema\textsuperscript{567,} Norm Barrette\textsuperscript{3,} Gillian Hawker\textsuperscript{689,10,} Jeffrey S Hoch\textsuperscript{10,11,} Wanrudee Isaranuwatchal \textsuperscript{11,} Jane Philpott\textsuperscript{1213,14,} Chris Speare\textsuperscript{3,} Walter Tavares\textsuperscript{3,15,16,17,} Linda Turner\textsuperscript{4,} Melissa Farrell\textsuperscript{18,} Tom Filosa\textsuperscript{19,} Jennifer Kairie\textsuperscript{13,} Alex Kiss\textsuperscript{611} and Laurie J Morrison\textsuperscript{1,2,5}

Abstract

**Background:** The incidence of chronic diseases, including diabetes mellitus (DM), heart failure (HF) and chronic obstructive pulmonary disease (COPD) is on the rise. The existing health care system must evolve to meet the growing needs of patients with these chronic diseases and reduce the strain on both acute care and hospital-based health care resources. Paramedics are an allied health care resource consisting of highly-trained practitioners who are comfortable working independently and in collaboration with other resources in the out-of-hospital setting. Expanding the paramedic’s scope of practice to include community-based care may decrease the utilization of acute care and hospital-based health care resources by patients with chronic disease.

**Methods/Design:** This will be a pragmatic, randomized controlled trial comparing a community paramedic intervention to standard of care for patients with one of three chronic diseases. The objective of the trial is to determine whether community paramedics conducting regular home visits, including health assessments and evidence-based treatments, in partnership with primary care physicians and other community-based resources, will decrease the rate of hospitalization and emergency department use for patients with DM, HF and COPD. The primary outcome measure will be the rate of hospitalization at one year. Secondary outcomes will include measures of health system utilization, overall health status, and cost-effectiveness of the intervention over the same time period. Outcome measures will be assessed using both Poisson regression and negative binomial regression analyses to assess the primary outcome.

**Discussion:** The results of this study will be used to inform decisions around the implementation of community paramedic programs. If successful in preventing hospitalizations, it has the ability to be scaled up to other regions, both nationally and internationally. The methods described in this paper will serve as a basis for future work related to this study.

**Trial registration:** ClinicalTrials.gov: NCT02034045. Date: 9 January 2014.

**Keywords:** Randomized controlled trial, Community health services, Primary health care, Allied health personnel
Stay Tuned!
CP MIH Programs
Can you prove it?
CP/MIH Research
Using Best Evidence Develops Best Practice