A Proactive Approach by Community Paramedics to Care for Frequent Callers of 911

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EPIC

BACKGROUND

- Winnipeg, Manitoba, like other cities across Canada, faces increasing demands on both its Emergency Departments (EDs) and 911 service.
- In 2013, the Winnipeg Fire Paramedic Service (WFPS) in partnership with the Winnipeg Regional Health Authority (WRHA) deployed the Emergency Paramedic In the Community (EPIC) program.
- At its inception, EPIC identified frequent 911 callers and sought to assess their unmet needs. Many of these clients have complex medical conditions [or histories], complicated by a range of socio-economic challenges.
- In consultation with on-line medical control, EPIC medics partner with allied health agencies such as Home Care to develop unique care plans that aim to reduce each client's dependence on emergency resources.

PURPOSE

- The main objective of this study is to evaluate whether the implementation of a novel Community Paramedicine Program improves patient and system-centered outcomes related to emergency-resource use. These outcomes include the number of 911 calls, ambulance transports to EDs, ED visits and ED length of stay amongst frequent users of EMS in the city of Winnipeg. A secondary objective is to examine whether EPIC results in cost savings compared to standard of care.
- We hypothesize that the use of the EPIC Program will reduce these outcomes and will result in cost savings compared to standard care.

PRELIMINARY RESULTS

- EPIC's initial case load consisted of 40 of Winnipeg's top users Emergency Medical Services (EMS). Only 37 of these clients are included in the preliminary results as 2 died prior to EPIC contact and 1 prior to 6 months.
- Figure 1 shows a significant reduction of 42.3% of EMS transports in the 6 months post EPIC Program involvement. There was also a 24.7% decrease in total 911 activations.
- Table 1 shows a 21.9% decrease in ED visits during the 6 months post EPIC which equates to an average monthly reduction in combined ED length of stays by 242.24 hours.

Figure 1: Preliminary Results - Initial 37 Clients

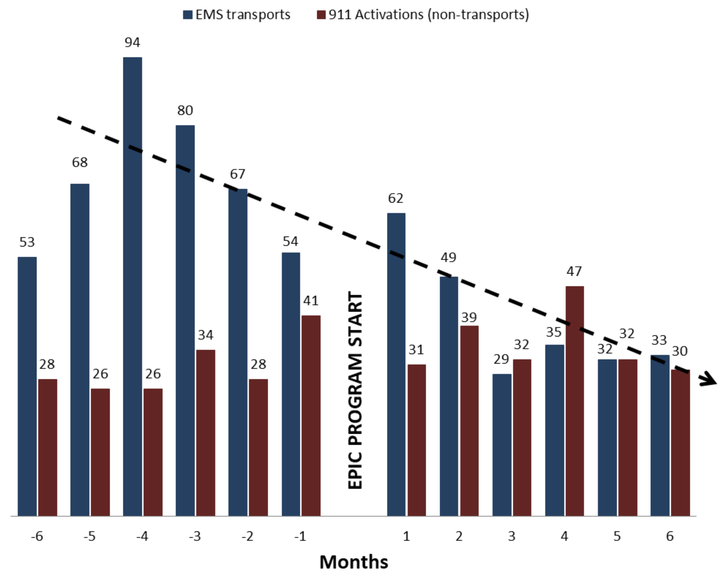


Table 1: Preliminary Results of ED Visits - Initial 37 Clients

	6 Months Pre EPIC	6 Months Post EPIC
Average Total ED Visits per Month	73	57
Average Length of Stay (Hours)	13.43	12.95
Number of Clients Utilizing ER	37	32



METHODS

- This is a retrospective before-and-after chart review to evaluate the pilot phase of the EPIC program. We will review and analyze chart data and records obtained from the WFPS's database from six months pre and six months post initial contact by EPIC, referred to as time zero.
- Patients were enrolled into the EPIC program on a rolling basis.
- Several different statistical methods will be used in the analysis of the data, including mixed-effects Poisson regression models and paired t-test. Similarly, the modified Fisher's z-test of Tu, Baelum, and Gilthorpe will be used to test the hypothesis. Other methods will be used to account for differences in follow-up time during the post-intervention period, i.e. early death, and whether the magnitude of intervention effect is dependent on baseline severity.

IMPACT OF PROPOSED STUDY

- This will evaluate a unique Community Paramedic interventions that is, to the best of our knowledge, one of the first of its kind in Canada, based in a large urban center and targeting frequent users of EMS.
- This study will add to a small but growing collection of evidence-based literature in the specialized field of Community Paramedicine.
- The results will be used to procure additional funding to expand this program. This includes training and hiring new EPIC paramedics which will allow for a larger roster of patients and extended hours of operation. Moreover, services can potentially be expanded to include on-site investigations like electrocardiograms and basic chemistry.

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