



# PROPOSAL FOR PILOT PROJECTS TO

## Assess the Impact and Outcomes of Fire Fighter Symptom Relief Training and Intervention in Ontario

**T**he OPFFA has grown to over 11,300 members. Approximately 10% (over 1,000) of these members are fully trained paramedics. Emergency medical response represents a growing share of overall fire department call volumes province-wide, with a five-year average of over 42%.

### ONTARIO FIRE DEPARTMENT RESPONSE DATA:

Year	Total Calls	Medical/ Resuscitator calls	Percent of Total
2009	484,625	207,706	42.86%
2010	482,617	206,822	42.85%
2011	486,027	212,786	43.78%
2012	462,542	196,189	42.42%
2013	455,007	180,612	39.69%
Total	2,370,818	1,004,115	42.35%

*\*As per OFM standard incident reports*

The significance of budgetary pressures was highlighted in Chapter 3, Section 3.04 of the 2013 Auditor General’s Report titled “MOHLTC Land Ambulance Services.”

***“...Ministry funding to municipalities almost doubled between 2004/05 and 2011/12...thereby increasing the grant from \$241 million to \$401 million...”***

***“...Since 2008/09, annual increases have averaged 6%. While overall cost to fund land ambulance services almost doubled, the number of patients transported in the same time frame increased by only 18%...”***

***“...still only about 60% of the 50 municipalities responded to 90% of their calls within 15 minutes...”***

Therefore, utilizing the availability of existing fire resources to augment the community response model by adding selected medical procedures (symptom relief), may result in improved clinical outcomes

and reduce the response time and funding pressures being faced by paramedic services.

There is a wide range of practice in different jurisdictions across Ontario, resulting in different levels of care by fire fighters at medical emergencies. One of the best ways to standardize these practices is through the creation of a new first responder: A hybrid model that the Ontario Professional Fire Fighters Association would refer to as a **“Fire-Medic.”** A Fire-Medic is a highly-trained fire fighter who can also provide Basic Life Support (BLS); trauma management; semi-automatic external defibrillation; oxygen therapy and administration; pulse oximetry; glucometry and Symptom Relief.

Our proposal aims to have a Fire-Medic dispatched simultaneously with ambulance services and support them in life-saving procedures. To achieve certification as a Fire-Medic, a fire fighter would have to undertake additional training under the supervision of a base hospital physician. There are approximately 1,000 fire fighters already trained as paramedics in Ontario. The remaining fire fighters would require approximately 20 hours of training. Once the base hospital physician is satisfied that the fire fighters have mastered the competencies required to deliver Symptom Relief, he or she would certify them as a Fire-Medic.

### BACKGROUND AND HISTORY

In the U.S. and Canada, more than 90 percent of professional paid fire departments deliver emergency medical care at varying levels, making fire departments the largest group of providers of pre-hospital EMS care in North America. In fact, more than 36% of the members of the International Association of Fire Fighters (IAFF) are paramedics. An additional 58% are Emergency Medical Technicians (EMTs) and the remainder are first responders.

### Canadian Fire Departments providing more than basic medical first response:

#### Dual mode services: (Full ALS with Patient Transport)

Fort McMurray AB	Red Deer AB	Spruce Grove AB
Lethbridge AB	Leduc AB	Thompson MB
St Albert AB	Brandon MB	Strathcona AB
Kitimat BC		

**Fire-based PCP Model: (Primary Care Paramedic on every fire truck but no transport)**

Winnipeg, MB

**Canadian Fire Departments that provide symptom relief in addition to basic medical response:**

Prince George, BC

Pearson Airport, ON

Ottawa Airport, ON

Delta, BC (trained to symptom relief and working to provide the service)

**United States:**

Essentially, every fire fighter receives emergency medical training and the fire service provides the majority of medical services during emergencies that occur out of the hospital. Of the 200 most populous cities in the United States, 100% have fire department emergency medical first response (JEMS 200-Cuty Survey, 2010)

**Ontario Intervention:**

Currently, 14 fire services, employing more than 40% of Ontario's career fire fighters provide Symptom Relief from anaphylactic shock (EpiPens):

- |                |                 |               |
|----------------|-----------------|---------------|
| Brampton       | Pearson Airport | Niagara Falls |
| Ottawa Airport | Pembroke        | Deep River    |
| Mississauga    | Chalk River     | Clarington    |
| Barrie         | Caledon         | Toronto       |
| Oshawa         | Richmond Hill   |               |

Boards of Education in Ontario now have formal procedures for the intervention of anaphylaxis by teachers and school bus drivers.

**SYMPTOM RELIEF:**

MEDICATION	USE
<p><b>ASA</b> (acetylsalicylic acid)</p> 	<p>Used in chest pain protocol as an analgesic, and to assist as a platelet aggregation inhibitor (reduces clotting). Contraindications would be: current, active bleeding; history of asthma (with no previous use of ASA); recent head injury or CVA, within past 24 hrs.; allergy to ASA or NSAID's.</p>
<p><b>Nitroglycerin Spray</b></p> 	<p>Used in the treatment of angina chest pain by dilating blood vessels and reducing preload on heart and providing oxygen rich blood beyond the occlusion that is causing the angina chest pain. Contraindications are no previous nitro use and a drop in blood pressure by more than one third after administration. Also obviously any allergies to nitro. (Nitroglycerin is also used to relieve pulmonary edema due to congestive heart failure.)</p>

**Ventolin**  
(Salbutamol)



Used in the treatment of asthma, COPD and emphysema.

**Epinephrine**



Used in the treatment of anaphylaxis or nebulized for the treatment of croup.

**Glucagon**



Used in the treatment of hypoglycemia by drawing all stores of glucose in to the blood stream to alleviate their symptoms

**Glucose Paste**



Used in conjunction with glucagon to help stabilize the patient's sugar after glucagon administration.

**IMPLEMENTATION PLAN**

This proposal recommends eight pilot projects within Ontario to assess the benefits, costs and clinical outcomes of enhancing the training of existing career fire fighters to include the components of "Symptom Relief," as defined by the Ministry of Health and Long-Term Care under regulation 257/00 Schedule 2 (List of Controlled Acts that may be performed by a Primary Care Paramedic including the administration of glucagon, oral glucose, nitro-glycerin, epinephrine, salbutamol and ASA (80 mg form and Semi-automated external cardiac defibrillation)

**PILOT SITES**

Eight pilot sites are being recommended in large and medium urban settings, serviced by full-time fire and paramedic services.

Consideration should be given to the following communities. Through discussions with various stakeholders, we believe there is political will within the respective municipal and provincial government leaders.

<b>Brampton</b>	Sudbury
<b>Peterborough</b>	Oakville
<b>Guelph</b>	St. Catharines
<b>Kitchener</b>	Vaughan
<b>Barrie</b>	Burlington
<b>Mississauga</b>	Toronto (Selected locations)

**\*bold = current simultaneous dispatch pilot sites**

**\*NOTE - 10% of full-time fire fighters are currently certified paramedics. (Recent OPFFA survey), significantly reducing the cost of training.**

In order to accurately evaluate the efficacy, we recommend that Fire-Medics be trained and deployed as part of a 2-year pilot project.

### Training

Each site would have eight (two per platoon) Fire Medic instructors (FMI), requiring two days (eight hours per day) of “train the trainer” instruction. Upon successful completion and validation by the Medical Director, they would achieve the designation of FMI for their respective fire departments.

The FMI would train and certify 25% of the current suppression fire fighters in each site, utilizing a self-study manual and a 20-hour course, while on-duty, minimizing the cost.

The certification of 25% of suppression fire fighters will ensure at least one Fire Medic on each front line vehicle (includes a buffer for time off).

The cost of training is outlined in Appendix One, however, for a typical community with eight first response fire vehicles, the total cost of the program, including one-time start up and ongoing costs, would be approximately \$30,900.00 in the first year.

### Advisory Committee

To effectively manage the project, it is recommended that an Advisory Committee be established to review and assess the progress of the Fire Symptom Relief Program.

Representation would include the Ontario Association of Fire Chiefs, Ontario Professional Fire Fighters Association, Ministry of Health and Long-Term Care, Emergency Health Services and the Ontario Fire Marshal.

### Oversight and Management

Medical Directors/Base Hospital Physicians would provide oversight, including certifications, designations, and the reviewing of medical data.

### Independent Review

It is also proposed that a third party be retained to provide an independent review. This body would gather clinical data, operating data, response time, intervention information and patient outcomes, etc. The study should validate the benefits of the Symptom Relief Program in terms of clinical, as well as economic benefits.

### Patient Transfer

Patient care and transfer from a Fire Medic (Symptom Relief response) would be handled in the same manner, which is currently taking place when defibrillation protocol occurs.

### Summary of Operating Plan

- Create a Provincial standard or designation of “Fire Medic” for quality assurance;
- Establish a pilot involving up to eight communities that provides enhanced fire first response capability;
- Every front line fire apparatus within the pilot employs a “Fire-Medic” (from the current staff) – trained in Symptom Relief;
- Every front line fire apparatus to carry one complete Symptom Relief Kit;
- Oversight provided by medical directors and/or base hospital physicians to oversee the Symptom Relief program, including the Fire-Medic certifications;
- Establish a committee comprised of O AFC, OFM MOHLTC and OPFFA similar to TIF, to review the program for two years. They would meet six times a year; and
- Retain a 3rd party company to review the clinical and patient outcomes.

### IMPORTANT NOTES:

1. This proposal is not asking to replace Ontario’s Paramedics;
2. This proposal is not asking for extra personnel or staffing to provide this extra care;
3. This proposal is not asking for extra salary to provide this value added patient care;
4. This proposal is not asking for extra fire trucks or extra single vehicles to provide this care.

We believe the pilots will show that a Fire-Medic system is a more cost-effective method of enhancing the EMS system and will relieve the response time pressures and ultimately, the cost to government placed on paramedic services.

### Projected Program Cost Per Community

Cost Per Community (Based on 8 First Response Vehicles per Community)	Number of Communities	Number of First Response Vehicles	One Time	Ongoing
Symptom Relief Drugs and Equipment 8 sets	1	8	\$4,039.92	
Replacement Drugs and Equipment (50%)	1	8	\$0.00	\$2,019.96
Cost of Training and Base Hospital Oversight	1		\$0.00	\$10,000.00
Backfill at time and a half for 8 Trainers during Train the Trainer Training (2 days)	1		\$9,231.36	\$0.00
Backfill for Trainers providing Continuing Medical Education (8 hours x 8 Trainers at time and a half)	1	8	\$0.00	\$4,615.68
Incidentals			\$0.00	\$1,000.00
Total for 1 Community	1	8	\$13,271.28	\$17,635.64

**Total year one start up for one community would be \$30,906.92. Cost includes \$13,271.28 in one-time expenses and \$17,635.64 in ongoing expenses in the first year and each year after.**