



EMS Study Committee

Town of Canton

Revision Sep 7th, 2012 by M. Angell

Committee Charge

The Board of Selectmen appointed a Temporary Committee to make recommendations for long range plans for providing future EMS coverage. The Temporary EMS Study Committee's review of possible options included, but was not limited to, the following:

- 1) Cost and impact of having additional incentives for EMS volunteer staff;
- 2) Cost and impact of having a full time non-employee paid EMS staff;
- 3) Cost and impact of having full time paid employee EMS staff;
- 4) Cost and impact of having an outside vendor provide EMS services;
- 5) Cost and impact of having the EMS level of service downgraded; and
- 6) Cost and impact of making no changes to the current EMS program
- 7) Cost and impact of regionalizing EMS services

Both the positive and negative impacts of any of the above concepts were reviewed. Also, combinations of the above concepts were considered. Appropriate data was acquired from various sources in order to make suitable recommendations to the Board of Selectmen. This report includes the current strengths and weaknesses of EMS and what would be the benefits and costs of any suggested changes.

Committee Members

EMS:

Myles Angell - Chairman

David Bondanza

Fire:

Colin Narducci

Ryan Kerr

Police:

Peter Getz - Secretary

Residents at Large:

Julius Fialkiewicz - Vice Chairman

Alex Morisano

Steven Johnson

Joe Vacca

Canton EMS Overview

- Municipal Department
- Division of the Fire Department
- Sponsor Hospital - UConn Hospital
- Paramedic Contract - UConn Fire Dept
- First Responders - Canton Police Dept

Reporting Structure

CAO & Board of Selectmen

Chief of Fire/EMS Department

Assistant Chief

Deputy Chief

2nd Deputy Chief of Training

Captains (3)

Lieutenants (3)

Engineers (3)

Fire Division

Assistant Chief

Deputy Chief

Captain

Engineer

EMS Division

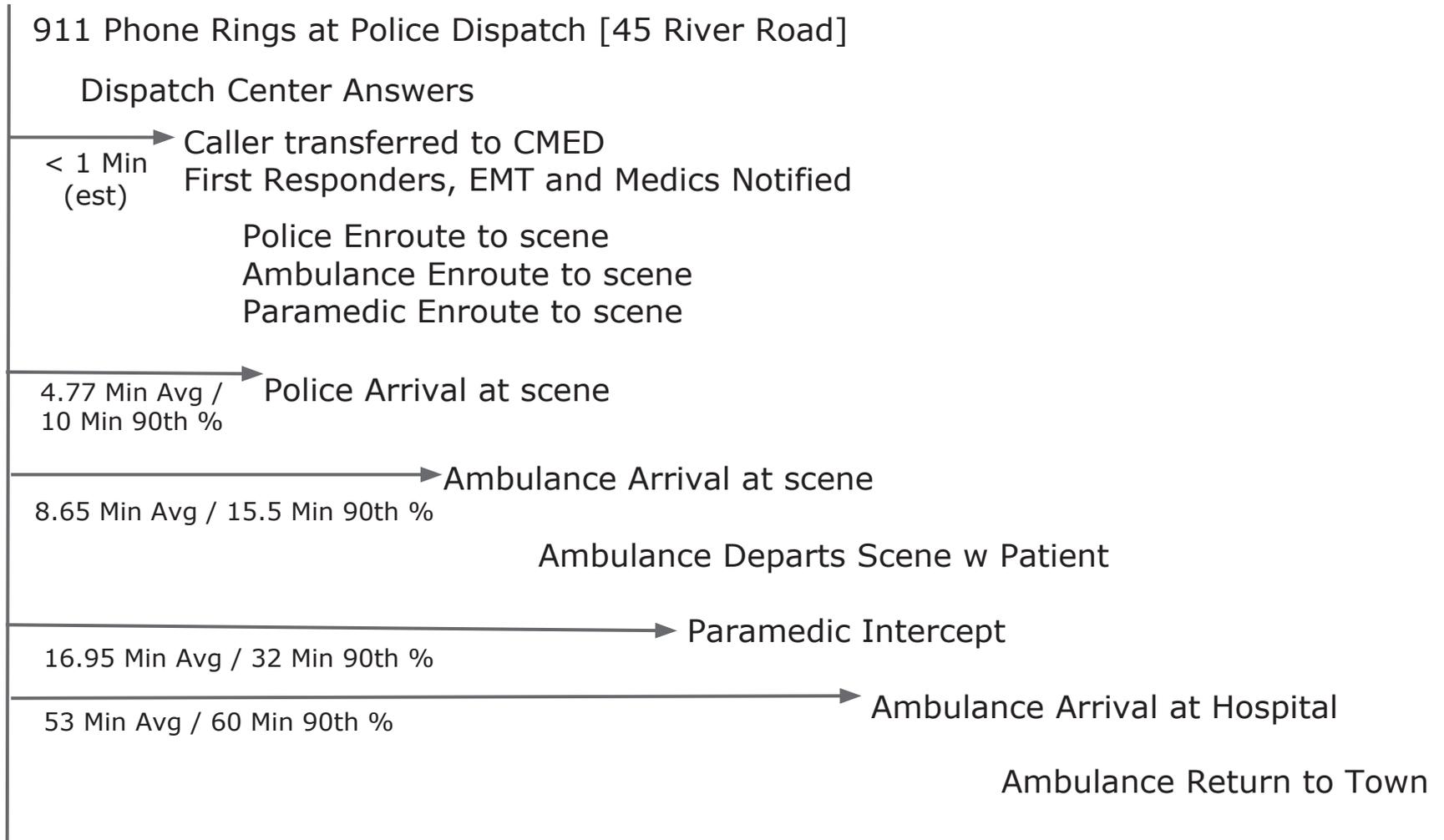
Membership Roster

	2002	Jan 2012	July 2012
Crew Leaders / AEMT	17	8	11
Drivers / EMT	13	6	9
EMT		11	14
Other		4	9

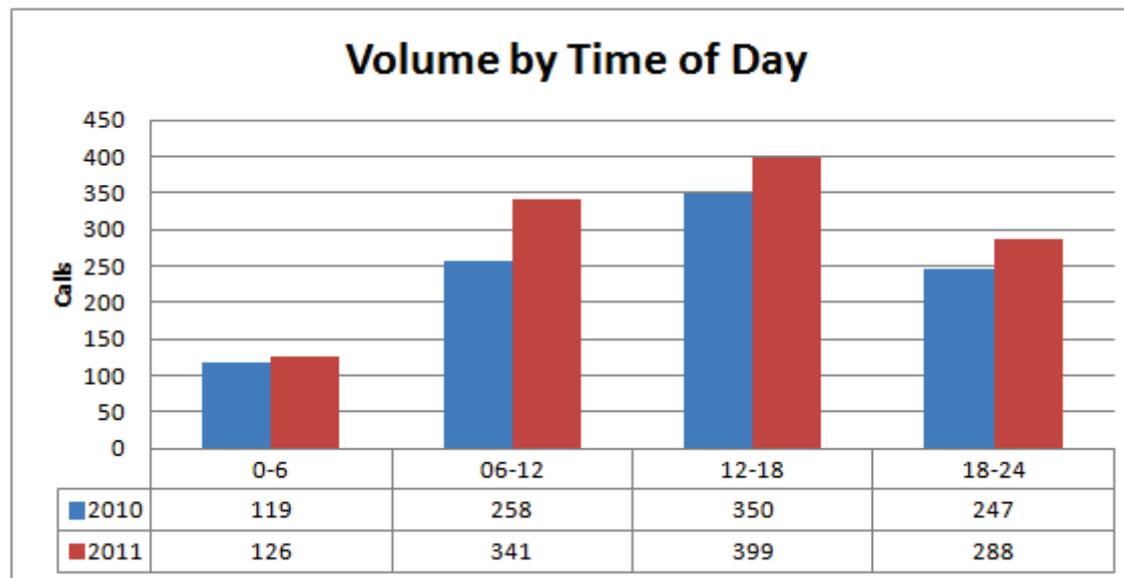
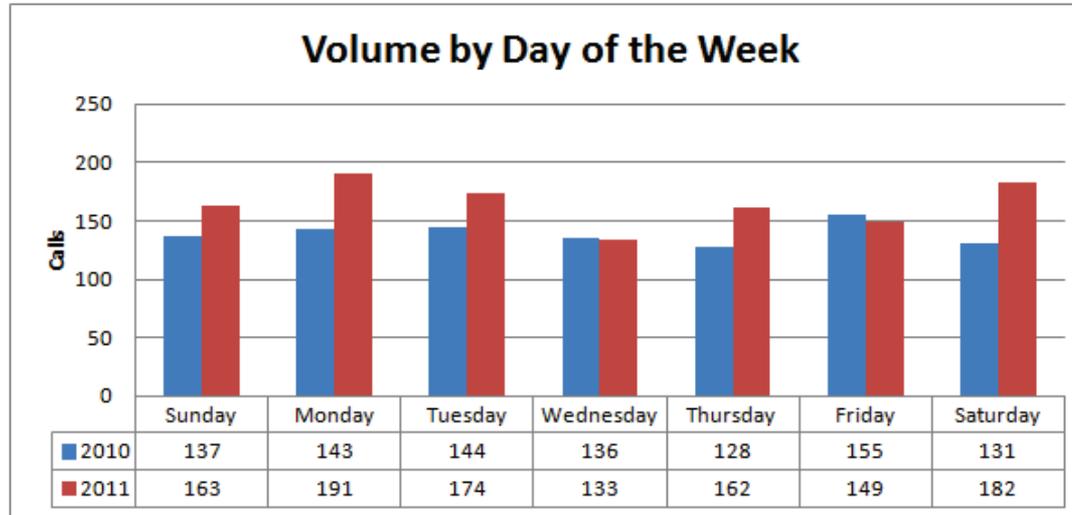
Mutual Aid EMS Overview

Town	Type	Funding	First Responders	Service Level	Paramedics
Canton	Municipal	Billing + Town	Police	Intermediate	UConn FD
Avon	Commercial	\$0 Bid to Town [Billing]	Police	Paramedic	AMR
Simsbury	Non Profit	Billing + Town	Police	Paramedic	Simsbury
Granby	Non Profit	Billing + Donations	Police	Paramedic	Granby
Burlington	Non Profit [FD]	Billing + Town	EMS	Paramedic	Bristol Hospital
New Hartford	Non Profit	Billing + Town	EMS	Intermediate	Campion

EMS Process



EMS Call Volume



Department Call Volume

	2010	2011	2012 (YTD Jul 1)
Fire	329	468	140
Medical	645	686	390
Total	974	1154	530

Call volume data from OEMS, Police CAD, FireHouse and EMS Charts exports.

Response Times

	NFPA 1710	2002 Canton EMS Plan	2011 Avg	2011 90th Percentile
First Responder	4		n/a	n/a
Ambulance Arrival		6 - 8	8.65	15.5
Paramedic Arrival	8	8 - 12	16.95	32

All times in minutes

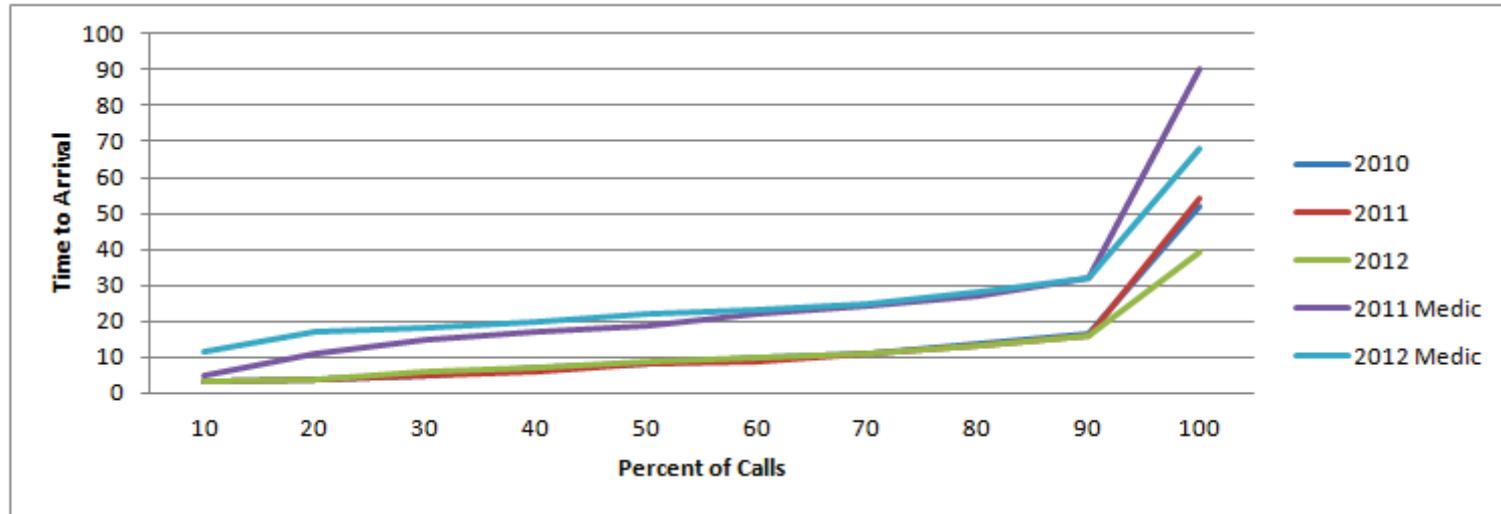
90% of all calls, the ambulance arrived on scene within 15.5 minutes, and paramedics intercepted with the patient within 32 minutes.

NFPA 1710 4.1.2.1 (2010 Edition)

(4) 240 seconds or less travel time for the arrival of a unit with first responder with automatic external defibrillator (AED) or higher level capability at an emergency medical incident

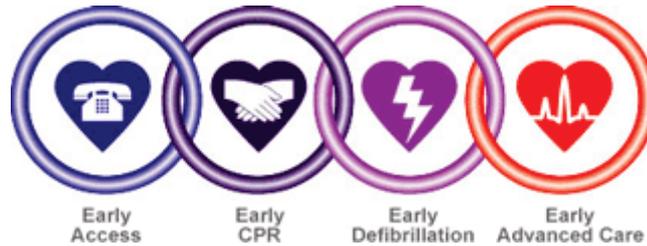
(5) 480 seconds or less travel time for the arrival of an advanced life support (ALS) unit at an emergency medical incident, where this service is provided by the fire department provided a first responder with AED or basic life support (BLS) unit arrived in 240 seconds or less travel time

Response Times



Year	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
2010	3	4	5	7	8	10	11	14	16.4	52
2011	3	4	5	6	8	9	11	13	15.767	54
2012	3	4	6	7	9	10	11	13	16	39
2011 Medic	5	11	15	17	19	22	24	27	32.1	90.267
2012 Medic	11.6	16.8	18	20	22	23	25	28	32	68

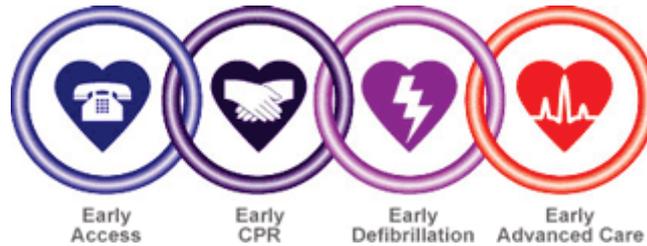
Chain of Survival 1/2



In 1990, the American Heart Association developed the Chain of Survival. This protocol addresses the fact that most SCA (sudden cardiac arrest) episodes occur outside of a hospital, with death occurring within minutes of onset. For the Chain to be effective, quick execution of each and every link is critical. With each minute that passes, the likelihood of survival decreases 7-10%.

Time After the Onset of Attack	Survival Chances
With every minute	Chances are reduced by 7-10%
Within 4-6 minutes	Brain damage and permanent death start to occur
After 10 minutes	Few attempts at resuscitation succeed

Chain of Survival 2/2



Type of Care for SCA Victims after Collapse

Chance of Survival

No care after collapse

0%

No CPR and delayed defibrillation (after 10 minutes)

0-2%

CPR from a non-medical person (such as a bystander or family member) begun within 2 minutes, but delayed defibrillation

2-8%

CPR and defibrillation within 8 minutes

20%

CPR and defibrillation within 4 minutes; paramedic help within 8 minutes

43%

Goals for Canton EMS

1) Ambulance Response times within recognized standards:

Low Acuity - < 12 Minutes

High Acuity - < 9 Minutes

90% compliance

2) Aspire to a financially break-even model

3) Response Expectations

100% First calls by Canton EMS

80% Secondary Calls by Canton EMS

4) Maintain Community Based EMS

We took the goals outlined above and balanced them against the charge and the chain of survival to provide a baseline for all discussion and recommendations.

Charge vs Goals Summary

		Current	1	2	3	4	5a	5b	7
Response Times	Low Acuity in 11:59		nc	+	+	+	nc	+	nc
	High Acuity 8:59		nc	+	+	+	nc	+	nc
Break Even Model			nc	-	nc/+	+	-	-	+
Response Expectations	100% First calls		nc	+	+	+	+	+	nc
	80% Second Calls		nc	nc	+	n/a	+	+	nc
Community Based EMS			+	-	nc	-	nc/-	+	nc

Exceeds Expectations

Meets Expectations

Does not meet Expectations

+ Improvement Expected
 - Reduction Expected
 nc No Change Expected

5a) Downgrade Service Level

5b) Upgrade Service Level

6) No changes (Current System)

7) Regionalizing EMS services

- 1) Additional incentives for Volunteers
- 2) Full time non-employee
- 3) Full time paid employee
- 4) Outside vendor

Current System

Cadet Program

Local Control - Administrative and Personnel

Large Local Resource Pool

Local Involvement - Lobster Loop, Sam Collins Day, Blood Pressure Clinics

Community Education

Community Involvement

Fire and Police Integration

60 Year Tradition

Police Dispatch results in faster response times

Issues Identified

Long Delay in Paramedic Response

Inadequate Documentation - ~200 undocumented responses during 2011

Inadequate Run Form Review [Quality Assurance / Quality Control]

Inadequate Reporting - Discrepancies between CAD, EMS Charts, CMED

Disproportionate Refusal Rate

Low Recovery Rate - Billing company expected 2% increase in 2012

Inconsistent Responses

Shifts Unfilled

Low Membership

Lack of Local Training Classes

Shortage of Crew Leaders

Equipment / Gear Shortages

Officer Responsibilities

Availability during day, night and weekends

Billing Company Contact

State OEMS Meetings / Contact

Town of Canton Weekly Dept Chair Meeting

Sponsor Hospital Meeting [Monthly]

Chief Meetings [Monthly]

Officer Meetings [Monthly]

Training [Monthly]

Supplies Ordering

Vehicle Maintenance

Duty Schedules

Station Maintenance

Personnel Issues - Recruitment and Retention

Personnel Issues - Discipline

Run Form QC

State Red Plan

Regional Task Force 54

Station Issues

Poor Station Maintenance [Cleaning, Supplies, and Mowing]

Frequent lack of cleaning supplies, toilet paper (5/22/12 through 7/19/12), laundry detergent and paper towels

Floors uncleanable, need repair

Challenges coming in 2013

Elimination of the AEMT certification at the state level will force service to either downgrade to BLS or upgrade to full ALS service.

Financial Summary

\$ in thousands

Category	Forecast	Actuals restated on pro forma basis				Comments	
	2012-11	2010-11	2009-10	2008-09	2007-08		
Revenue¹	Billing	312	293	298	271	267	Revenue collected from billing company for EMS services Recovery from CAG overbilling issue
	Other		19				
	TOTAL	312	312	298	271	267	
Expenses	Vintech	142	150	129	136	126	2 staff Mon-Fri 6am-6pm @\$20.97/hr in 2012 (2.5% inc)
	Billing Svc	24	25	32	29	30	Comstar in 2012 (lower rate); CAG in 2011 and prior
	Pay/Call	24	22	24	-	-	Pay per call program - \$5 per 12 hr shift + \$5 per call (19 curent volunteers)
	Pension	18	19	15	15	18	1990-94 DB (3 people); 1994-09 DC (14 people) (grandfathered so accrue benefits each year)
	Insurance	17	19	16	13	11	Property, liability, umbrella coverage, etc.
	First Aid Supplies	19	18	16	17	16	Includes police department usage - consider 25% chargeback?
	Finance Office	10	10	9	9	8	5% of Canton Finance Department
	Equipment	14	8	5	12	6	Jackets, pants, jumpp suits, ratios, auto defib, computer, etc.
	Training	10	9	10	10	4	
	Stipends	6	5	3	-	-	
	CMED	6	6	6	6	6	Coordinated Medical Emergency Directions (\$0.66 per resident)
	EMD	19	19	19	19	17	Emergency Medial Dispatch (\$1.87 per resident)
	UConn	16	26	25	23	23	UConn changed to per capita charge in FY 11-12 actual only \$15,600
	Medical Doctor	1	-	2	1	3	Physicals
	Vehicle Fuel	10	7	5	8	7	
	Vehicle Maintenance	10	28	7	6	14	Higher level of maintenance in 2011 - cause?
	Ambulance Purchase	36	36	36	36	36	\$180K cash outlay for periodic Ambulance purchase every 5 years
	Utilities / Other	30	21	26	29	25	Phone/cell, power, heat, cable, sewer, water, etc. (heat is most variable)
	TOTAL	412	428	384	370	350	
	Profit / (Loss)	(100)	(116)	(86)	(99)	(84)	

Not in EMS budget based on town's accounting methodology; falls into General Fund

¹An annual subsidy (contribution) from the town of Canton has been excluded from the financial schedule as it is not an operating revenue. The subsidy was \$40K in 2011, \$18K in 2010, \$38K in 2009, and \$48K in 2008.

Charge Review

Additional incentives for EMS volunteer staff 1/3

Current Incentives

- \$5 per response, \$5 per 12-hour shift
 - Paid twice annually, periods close Dec 31 and Jul 1
- Training / Conferences Paid for by Department
- Partial Uniform Provided [Shirt, Pants]
- Stipends for officers

Current Incentive Costs

- Pay Per Call / Shift – \$24,000
- Training – \$10,000
- Stipends – \$6,000
- Pension [No new members can be in pension] – \$18,000
 - Persons not taking calls are receiving pension credit - **Disincentive**
- Uniforms – Unable to determine, mixed in with other budget line items

Charge Review

Additional incentives for EMS volunteer staff 2/3

Increase Cash Incentives

- Further greys the line between volunteer and employee status
- To keep within stipend limits, any increase would be nominal
- Given the current cash incentive, it is not a recruitment tool
- Even with an increase, money is not the motivator for being a volunteer

Options

- Adjust Per-Shift Costs
 - Consider Breaking into 6 hour shifts?
- Adjust Per Call Costs
 - What about fire dept?
- Adjust Car 11 per call Costs
 - Possible, however reporting is inadequate
- Adjust Transport vs Refusal Costs
 - Wrong approach, would encourage inappropriate patient care.
- Adjust weekend [daytime] only
 - Must protect against cherry picking
 - The cherry picker may not be a high skilled EMT.
 - Cherry picking also will cause upset.
- Tiered Approach, for example:
 - 0-6mo - \$5/call
 - 6mo-2yr - \$10/call
 - 2yr-5yr - \$15/call
 - Could be expensive, however focuses on retention

Charge Review

Additional incentives for EMS volunteer staff 3/3

Most incentives are good for retention, not as much recruitment, however a solid member base works as a good recruitment tool.

Options

- Quarterly Checks instead of Bi-Annual Checks
- Uniform Program – Fixed balance per volunteer per year to spend in EMS "store"
- Food Program –Dinner on weekends, or drill / meeting snacks
- Recognition – Focus on getting EMS members more recognition. Photography, slide shows, etc

Recruitment and Retention Committee should be contacted to review their original suggestions and possible revise and update the options.

Charge Review

Full Time Non-Employee Paid EMS Staff

- Volunteerism would go down
- Outside vendors not generally setup to provide administrative services
- Cost Structure would change as such:
 - Vintech Hours Today - 6,240
 - 2 technicians
 - 12 hours per day
 - 5 days per week
 - 52 weeks per year
 - Vintech Hours Proposed - 17,472
 - 2 technicians
 - 24 hours per day
 - 7 days per week
 - 52 weeks per year
 - Elimination of stipend cost, and reduction in per call costs
 - Severe reduction in volunteerism

Considered as an extension of the current system, not completely necessary as volunteers continue to staff the ambulance during night and weekend shifts.

Charge Review

Full Time Paid EMS Staff

Non EMT Clerical - Not Recommended

- Job requires overseeing medical crews
- Requires Significant experience in EMS
- Volume of administrative only duties do not justify staff that do not respond to calls for service

Paid Administrator / EMS Chief - Recommended

- Person should be empowered to restructure and direct EMS department.
- Reports directly to CAO

Granby and Simsbury both have paid EMS staff.

Charge Review

Outside Vendor Provide Services

Commercial Option

- Would need to go to bid for exact costs
- Some of the EMS costs would remain regardless, shifting to either Fire or PD
- Estimate Cost:
 - BLS Service \$18/hr [EMT] x 2 + 30% Overhead = \$47/hr
 - 365 Days x 24 Hr = 8,760 hours
 - $\$47 \times 8,760 = \$411,720$
 - Billing Revenue 2011 = \$263,000
 - Estimated Shortage = \$150,000
 - Medic Service \$18/hr [EMT] + \$25/hr [Medic] + 30% Overhead = \$56/hr
 - $\$56 \times 8,760 = \$490,560$
 - Increase billing 50% due to higher level of service = \$394,500
 - Estimated shortage = \$100,000

Consider creating a new non profit 501(c)(3) –

- Oversight by town board / commission
- Additional grant opportunities, may reduce cost

We do not find that a commercial for profit service is a viable option.

Charge Review

EMS Service Level Change 1/2

In the near future, we expect that the intermediate / AEMT level of service to be terminated. The town should have a plan in place prior to the state mandate. Any change will require a significant amount of planning and numerous discussions with our sponsor hospital, OEMS and mutual aid communities.

Downgrade to Basic Life Support [BLS]

BLS providers [EMT] are certified after a 150 hour course [~1 college semester]. A downgrade to BLS would require the ambulance to have 2 EMTs in order to respond to emergencies.

Impact

- Lowers Per call revenue
- Lowers level of care

No mutual aid town to Canton is a BLS provider.

Charge Review

EMS Service Level Change 2/2

Upgrade to Paramedic / Advanced Life Support [ALS]

Paramedics are licensed after over 1600 hours of training course [usually granted an Associate's Degree], and require precepting time. The range of offerings a paramedic can provide vary based on sponsor hospital, but generally include cardiac monitoring and intervention, airway management, and pharmacology.

Impact

- Increased cost
- Increased Revenue
- Would require a full time paid paramedic 24 hours per day, 7 days per week.

Simsbury, Granby and Burlington use this model.

Avon uses a commercial for profit service which provides a paramedic level of service.

Charge Review

Make no changes

Intermediate level of service going away as soon as 2013 or later. A change must be prepared for and made.

Charge Review

Regionalization

More long term, mutual aid companies showed little interest. No public grants available for research, possibly private grants for studies.

Committee Recommendations

1. Create a new full time employee position, Chief of EMS at the paramedic level
 - Administratively separate EMS and Fire
 - Chief of EMS should report to BOS/CAO.
 - Our assessment is the position will be self funded
2. Upgrade service to full time paramedic level within 2 years
3. Continued EMS Steering Committee [Monthly / Quarterly]
4. Additional incentives for volunteers should be awarded, poll the membership

Donations

Where does this acceptance go?

Approve acceptance of a gift from the Estate of Maurice S. Werner to the Town of Canton Fire and EMS Donation Account in the amount of \$73,543.16 pursuant to Charter section 6.05 (D) Acceptance of Gifts on Behalf of the Town

Glossary 1/2

Advanced Life Support (ALS): Emergency medical treatment beyond basic life support that provides for advanced airway management including intubation, advanced cardiac monitoring, defibrillation, establishment and maintenance of intravenous access, and drug therapy.

Advanced EMT: An individual who is certified as an AEMT by the office of emergency medical services. Certification requires an EMT certificate and training via a ~160 hour course.

Basic Life Support (BLS): A specific level of prehospital medical care provided by trained responders, focused on rapidly evaluating a patient's condition; maintaining a patient's airway, breathing, and circulation; controlling external bleeding; preventing shock; and preventing further injury or disability by immobilizing potential spinal or other bone fractures.

Emergency Medical Technician (EMT): An individual who is certified as an EMT by the office of emergency medical services. Certification requires training via a ~120 hour course.

Glossary 2/2

First Responder: Person trained to at least the MRT level, and is notified of the initial response to a call for service.

High Acuity: Response code based on CMED. A call that does not require a lights and sirens response.

Low Acuity: Response code based on CMED. A call that does not require a lights and sirens response.

Medical Response Technician (MRT): An individual who is certified as an MRT by the office of emergency medical services.

Mutual Aid: Emergency ambulance service performed by neighboring providers during periods of severe weather, multi-casualty incidents, or other extraordinary events that overwhelm existing resources.

Paramedic: An individual licensed by the office of emergency medical services. Licensure requires attending a ~1600 training course.