

TRI-TOWN Emergency Medical Service

2015 Annual Director's Report



Prepared By: *Christopher Gamache, Director*

January 13, 2016



PREFACE

Tri-Town Emergency Medical Service was started on January 1, 2013 by an Inter-Municipal Agreement between the towns of Allenstown and Pembroke, New Hampshire. The service is managed by the Service Director and Paramedic, Christopher Gamache with oversight by the Tri-Town EMS Board of Directors that is comprised of the Town Administrator and Fire Chief from both towns as well as a member from each community and a Tri-Town EMS employee representative. Tri-Town EMS' primary service area is the two towns, but will provides mutual aid to the Towns of Hooksett, Deerfield, Epsom, Chichester, Bow, the City of Concord, and where ever and whenever requested to do so. Tri-Town EMS is proud to be one of a few ambulance services within the Capital Area that provides its service area with 24/7 paramedic coverage. The service is making great strides to provide those we serve with the highest quality medical care coupled with up-to-date EMS equipment. Our staff is ready and available around the clock to answer calls for help.

REPORT INTRODUCTION

This report was generated on January 13, 2016 by the Service's Director, Christopher Gamache, and represents the EMS activity of the Tri-Town EMS, current projects, operational concerns and performance projections. The content of this report may be presented at the Monthly Meeting of the Joint Board on Wednesday January 13, 2016. This document contains data that was derived from the New Hampshire Department of Safety, Bureau of Emergency Medical Service patient care reporting web site, www.nhtemsis.org, where Tri-Town EMS documents all EMS related calls that are dispatched by Concord Fire Alarm. Additionally, this document contains data from the agency's billing contractor, ComStar.

Tri-Town EMS has a Medical Resource Hospital Agreement (MRHA) with Concord Hospital. This agreement entitles the agency to function under the medical oversight of the hospital's Medical Director, Dr. David Hirsch. As part of the MRHA, Tri-Town EMS has a Control Substance agreement with Concord Hospital, these two agreements afford TTEMS the ability to have Paramedic level medications and Controlled Substances.



SECTION 1: EMERGENCY MEDICAL SERVICE (EMS) ACTIVITY:

- Total Number of EMS Responses / Request for EMS Services1031
(2014).....1033
- Total Number of Patient's Transported707 (69%)
(2014).....680 (65.57%)
 - Transports to Concord Hospital581 (82%)
 - Transports to Catholic Medical Center (CMC)50 (7%)
 - Transports to Elliot Hospital76 (11%)
 - Transports to Other Hospital(DHART LZ to BOSTON).....1(0.1%)
- Total Number of EMS Runs Where Mutual Aid was Received ...(10 months).....69
(2014).....DATA NOT AVAILABLE
 - Concord Fire Department41
 - Epsom Fire Department16
 - Hooksett Fire Department12
 - Other EMS Agency0
- Total Number of Patient's Refusing Transport to the Emergency Department104
- Total Number of EMS Responses that Resulted in Another Disposition220

SECTION 2: EMS RUN DATA

Average Run Times:

- Reaction Time: 1m 21s (69.34% <1min)
- Response Time:5m 13s (64.06% <5min)
- On-Scene Time:18m 15s (9.06%< 10min; 50.19%< 20 min)
- Transport Time:19m 11s
- Back In Service Time:19m 16s
- Time on Task:1h 3m 16s

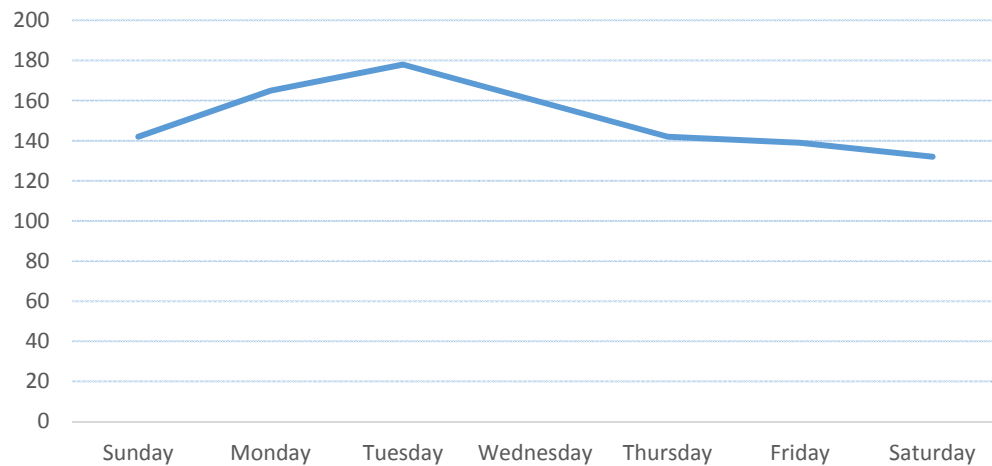
EMS Call Location, by Town:

- Allenstown, NH443 (44.0%/40.57%)
(2014).....421
- Pembroke, NH573 (56.0%/54.05%)
(2014).....538
- Deerfield, NH3 (0.28%)
- Manchester, NH.....1 (0.09%)
- Hooksett, NH46 (4.34%)
- Barnstead (including Center Barnstead), NH2 (0.19%)
- Epsom, NH7 (0.66%)
- Concord, NH2 (0.19%)
- Chichester, NH1 (0.09%)
- Loudon, NH2 (0.19%)

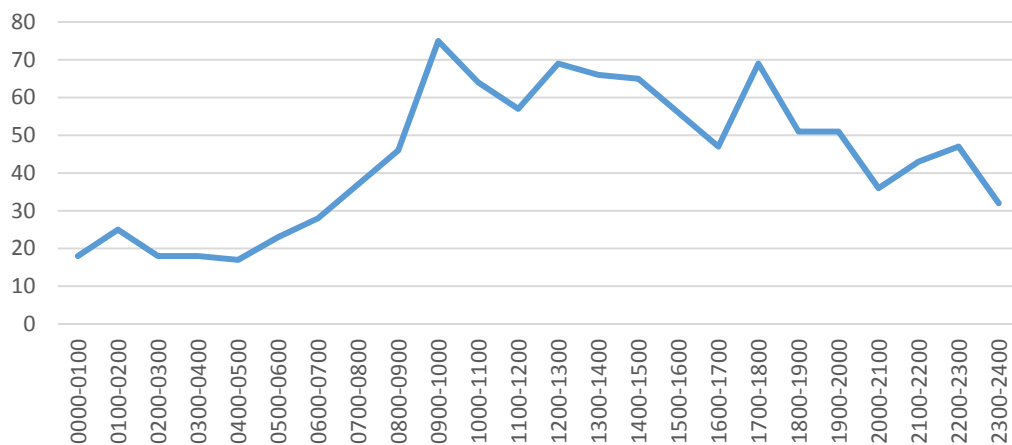
Times of Call

Time Period	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total	Percentage
0000 - 0300	7	13	8	10	5	7	11	61	5.75%
0300 - 0600	10	8	9	6	9	7	9	58	5.47%
0600 - 0900	17	12	18	13	21	16	14	111	10.47%
0900 - 1200	29	38	31	34	26	23	15	196	18.49%
1200 - 1500	22	31	36	31	23	28	29	200	18.87%
1500 - 1800	26	26	27	28	24	25	16	172	16.23%
1800 - 2100	15	18	28	21	18	18	20	138	13.02%
2100 - 2400	16	19	21	17	16	15	18	122	11.51%
Unknown	0	1	0	1	0	0	0	2	0.19%
Total	142	166	178	161	142	139	132	1060	100%

Annual Call Volume by Day



Annual Call Volume by Time of Day



Runs by Dispatch Reason

<u>Dispatch Reason</u>	<u># of Times</u>	<u>% of Times</u>
Abdominal Pain	37	3.49%
Altered Mental Status	5	0.47%
Anaphylactic / Allergic Reaction	5	0.47%
Animal Bite	1	0.09%
Assault	15	1.42%
Assault - Sexual	2	0.19%
Auto vs. Pedestrian	1	0.09%
Back Pain (Non-Traumatic / Non-Recent Trauma)	16	1.51%
Breathing Problem	154	14.53%
Burns	3	0.28%
Cardiac Arrest	12	1.13%
Chest Pain	94	8.87%
Choking	1	0.09%
CO Poisoning / Hazmat	12	1.13%
Diabetic Problem	34	3.21%
Fall Victim	97	9.15%
Fire Standby	10	0.94%
HAZMAT Standby	1	0.09%
Headache	2	0.19%
Heart Problems	5	0.47%
Hemorrhage / Laceration	17	1.60%
Ingestion / Poisoning	2	0.19%
Lift Assist / Invalid Assist	13	1.23%
Machine/equipment Injury	1	0.09%
Medical Alarm	31	2.92%
Motorized Vehicle Crash (Auto / Truck / ATV / Etc).	101	9.53%
Not Recorded	2	0.19%
Other	41	3.87%
Overdose	32	3.02%
Pain	22	2.08%
Pregnancy / Childbirth	4	0.38%
Psychiatric / Behavioral Problems	34	3.21%
Respiratory Arrest	2	0.19%
Seizure / Convulsions	26	2.45%
Sick Person	119	11.23%
Stab / Gunshot Wound	1	0.09%
Standby	6	0.57%
Stroke / CVA	21	1.98%
Traumatic Injury	9	0.85%
Unconscious / Fainting	49	4.62%
Unknown Problem / Man Down	20	1.89%
Unknown	0	0.00%
Total	1060	100%

Runs by Provider Impression

Provider Impression	# of Times	% of Times
Abdominal Aortic Aneurysm	3	0.28%
Abdominal Pain / Problems	59	5.57%
Airway Obstruction	2	0.19%
Alcohol Abuse and Effects	7	0.66%
Allergic Reaction	4	0.38%
Altered Level of Consciousness	11	1.04%
Asthma	7	0.66%
Back Pain (Non-Traumatic)	14	1.32%
Cancer	3	0.28%
Cardiac Arrest	9	0.85%
Cardiac Rhythm Disturbance	29	2.74%
Chest Pain / Discomfort (Non-Traumatic)	52	4.91%
CHF (Congestive Heart Failure)	16	1.51%
COPD (Emphysema / Chronic Bronchitis)	33	3.11%
Dehydration	2	0.19%
Diabetic (HYPERglycemia)	9	0.85%
Diabetic (HYPOglycemia)	17	1.60%
Diarrhea	1	0.09%
Drug Overdose / Misuse of Medications (Intentional)	18	1.70%
Epistaxis (Non-Traumatic)	2	0.19%
Fever	5	0.47%
G.I. Bleed	4	0.38%
General Malaise	11	1.04%
Headache	8	0.75%
HYPERtension	7	0.66%
HYPOtension	7	0.66%
Inhalant Related Disorders	1	0.09%
Migraine	1	0.09%
Nausea / Vomiting (Unknown Etiology)	20	1.89%
No Apparent Illness / Injury	108	10.19%
Not Applicable	1	0.09%
OB / Delivery	3	0.28%
Obvious Death	3	0.28%
Other	48	4.53%
Other Abdominal / GI Problem	3	0.28%
Other Cardiovascular Problem	4	0.38%
Other CNS Problem	5	0.47%
Other Endocrine / Metabolic Problem	1	0.09%
Other GU Problems	3	0.28%
Other Illness / Injury	33	3.11%
Pain (Non-Traumatic, Not Otherwise Specified)	40	3.77%
Poisoning or Unintended Adverse Effects of Prescribed Medication	4	0.38%
Psychiatric / Behavioral Disorder	44	4.15%
Respiratory Distress / Failure / Hypoventilation	44	4.15%
Seizure	15	1.42%
Sexual Assault/Rape (Suspected)	2	0.19%
Stroke / CVA	10	0.94%
Syncope / Fainting	15	1.42%
TIA (Transient Ischemic Attack)	2	0.19%
Traumatic Injury	91	8.58%
Unconscious	9	0.85%
Unknown Problem	9	0.85%
Weakness	44	4.15%
Unknown	157	14.81%
Total	1060	100%

Procedure Administered

Procedure Name	#	%
Assessment: Orthostatic Vital Signs	10	0.94%
Assessment: Patient Assessment	441	41.60%
Cardiac: 12 Lead ECG Obtained	339	31.98%
Cardiac: 12/15/18 Lead ECG-Transmitted	32	3.02%
Cardiac: CPR (Manual)	8	0.75%
Cardiac: CPR (Mechanical Device)	10	0.94%
Cardiac: Defibrillation (AED)	1	0.09%
Cardiac: Defibrillation (Manual)	12	1.13%
Cardiac: ECG Monitoring	378	35.66%
Cardiac: Vagal Maneuver	2	0.19%
General: Patient Cooling (Cold Pack or Global)	6	0.57%
General: Patient Warming (Hot Pack or Global)	2	0.19%
General: Restraint Applied (Physical)	1	0.09%
Movement: Cervical Collar Applied for Stabilization	17	1.60%
Movement: Extrication of Patient	5	0.47%
Movement: via Extrication Device (Full-Length)	7	0.66%
Musculoskeletal: Spinal Assessment	12	1.13%
Musculoskeletal: Spinal Immobilization	3	0.28%
Musculoskeletal: Spinal Motion Restriction (With C-Collar)	35	3.30%
Musculoskeletal: Spinal Precautions Withheld Per Assessment Criteria	8	0.75%
Musculoskeletal: Splinting (General)	9	0.85%
Musculoskeletal: Splinting (Traction)	3	0.28%
OB: Childbirth	1	0.09%
Respiratory: Airway Opened	5	0.47%
Respiratory: Bagged Ventilations (via Mask)	15	1.42%
Respiratory: Bagged Ventilations (via Tube)	6	0.57%
Respiratory: CPAP	14	1.32%
Respiratory: ETCO2 Colorimetric Detection	3	0.28%
Respiratory: ETCO2 Digital Capnography	34	3.21%
Respiratory: Intubation (Orotracheal Using Bougie Device)	2	0.19%
Respiratory: Intubation (Orotracheal)	13	1.23%
Respiratory: Mouth-to-Mask/Mouth Ventilation	2	0.19%
Respiratory: NPA Insertion	5	0.47%
Respiratory: OPA Insertion	3	0.28%
Respiratory: SGA Insertion (Combitube / Double Lumen)	1	0.09%
Respiratory: SGA Insertion (King / Single Lumen)	1	0.09%
Respiratory: Suction Airway	9	0.85%
Respiratory: Ventilator Care and Adjustment	1	0.09%
Soft Tissue: Burn Care	1	0.09%
Soft Tissue: General Wound Care	13	1.23%
Soft Tissue: Pressure Dressing Application	3	0.28%
Soft Tissue: Tourniquet Application	2	0.19%
Vascular: IntraOsseous Insertion	12	1.13%
Vascular: IV Catheter Removal	3	0.28%
Vascular: IV Catheterization (External Jugular Vein)	2	0.19%
Vascular: IV Catheterization (Extremity Vein)	676	63.77%
None	369	34.81%

Medication Administered

Medication Name	#	%
Acetaminophen (Tylenol)	8	0.75%
Adenosine	1	0.09%
Albuterol Sulfate	50	4.72%
Amiodorone (Cordarone)	2	0.19%
Aspirin (ASA)	77	7.26%
Atropine Sulfate	2	0.19%
Calcium Chloride	1	0.09%
Dextrose 10% (D10)	10	0.94%
Dextrose 50% (D50)	13	1.23%
Diltiazem (Cardizem)	4	0.38%
Diphenhydramine (Benadryl)	2	0.19%
Dopamine	1	0.09%
DuoNeb (0.5 Atrovent/3.0 Albuterol)	43	4.06%
Epi-Pen Adult	1	0.09%
Epinephrine 1:1,000	2	0.19%
Epinephrine 1:10,000	9	0.85%
Fentanyl	58	5.47%
Glucose (Oral)	7	0.66%
Haloperidol (Haldol)	1	0.09%
Hydromorphone (Dilaudid)	5	0.47%
Ibuprofen (Advil, Motrin)	2	0.19%
Ipratropium Bromide (Atrovent)	28	2.64%
Ketorolac (Toradol)	13	1.23%
Magnesium Sulfate	2	0.19%
Methylprednisolone (Solu-Medrol)	26	2.45%
Midazolam (Versed)	9	0.85%
Morphine Sulfate	16	1.51%
Naloxone (Narcan)	15	1.42%
Nitroglycerin	62	5.85%
Nitroglycerin Drip	5	0.47%
Nitropaste (Transdermal Nitroglycerin Ointment)	1	0.09%
Normal Saline	262	24.72%
Ondansetron (Zofran)	116	10.94%
Oxygen	87	8.21%
Oxygen (non-rebreather mask)	13	1.23%
Oxygen by Blow By	1	0.09%
Oxygen by Mask	2	0.19%
Oxygen by Nasal Cannula	84	7.92%
Oxygen by Nebulizer	7	0.66%
Oxygen by Positive Pressure Device	8	0.75%
Prochlorperazine (Compazine)	1	0.09%
Sodium Bicarbonate	3	0.28%
None	577	54.43%

SECTION 3: TRI-TOWN EMS PERSONNEL:

During 2015, Tri-Town EMS filled the vacant Paramedic Position with the current Assistant Director/Paramedic who was placed in charge of education and clinical development. The other paramedic position was vacated and filled in late summer. Upon this hiring, the new Paramedic was assigned tasks with the intention of the service being a greater medical resource to the communities. In 2015, the Tri-Town EMS Roster was relatively stable with four (4) employees leaving the organization and two (2) employees being hired by the service. The current staffing of Tri-Town EMS at the conclusion of 2015 is as follows:

- Full Time Employees (3- Paramedics).....3
- Part Time Employees (2-Paramedics, 2-AEMT, 2-EMT).....6
- Per Diem Employees (6-Paramedics, 7-AEMT, 4-EMT).....17
- TOTAL WORK FORCE26

Christopher Gamache	FT	Director/Paramedic	Jasmine Croteau	PD	EMT
Stephanie Locke	FT	Asst. Dir/Paramedic	Robyn Cushing	PD	Advanced EMT
Julie Irwin	FT	Paramedic	Leanna Fisher	PD	EMT
Adam Boise	PD	Paramedic	Daniel Fitzgerald	PD	Advanced EMT
Justin Hart	PT	Paramedic	Christina Frost	PD	Advanced EMT
Daniel Heffernan	PD	Paramedic	Corey Girard	PD	Advanced EMT
Robert Johnson	PD	Paramedic	Jonathan Goldman	PD	Advanced EMT
Michael Kelley	PT	Paramedic	Jonathan Harry	PD	EMT
Michael Langille	PD	Paramedic	Sarah Hardy	PD	Advanced EMT
Maurice Paquette	PD	Paramedic	Edward Higgins	PT	EMT
Hearshell VanLuven	PD	Paramedic	Irina Higgins	PT	Advanced EMT
			Christian Kellermann	PT	Advanced EMT
			Adam Morris	PD	Advanced EMT
			John Vanloendersloot	PT	EMT
			Robert Vodra	PD	EMT

SECTION 4: EQUIPMENT

In 2015 the service purchased the following equipment:

- Physio-Control Life Pak 15 (1)
- McGrath Video Laryngoscope (1)
- Panasonic Tough Pads (2)
- iPhone for Primary Ambulance and Assistant Director
- Color Laser Printer
- Equipment/Supply Cabinets (4)
- Office Chairs (5)

- Filing Cabinets (2)
- Pediatric Traction Splint (3)
- Glucometers (replaced to meet federal regulations)
- Panasonic Toughbook CF-53 (1)
- Carbon Dioxide Detectors (for equipment – Crew Safety) (6)

SECTION 5: CORESPONDENCE WITH OTHER HEALTHCARE AGENCIES

Allenstown Fire Department: Besides issues covered by the Service's Board of Directors and other operational conversations, Tri-Town EMS has had correspondence with members of Allenstown Fire Department to address training concerns.

American Ambulance Service of New England: Scott Schuler invited a representative of Tri-Town to attend a talk on Crew Resource Management. The talk was very applicable to EMS and pushed the notion of changing how the medical profession (to include EMS) does business to minimize adverse medical errors.

Catholic Medical Center (CMC): Reached out to Tri-Town EMS for training opportunities being offered by the hospital.

Concord Fire Alarm: Tri-Town EMS met with representatives of Concord Fire Alarm and the Capital Area Mutual Aid Compact to resolve mutual questions and concerns.

Concord Hospital: Being the Service's Medical Resource Hospital, Tri-Town EMS has regular and on-going communications with Concord Hospital, to address training, patient care topics, hospital services, and medication & documentation error follow-up and general operational concerns.

Elliot Hospital: Contacted Tri-Town EMS concerning a clinical issue. The Service investigated the issue and contacted the Elliot Hospital with the disposition of the concern.

Hooksett Fire Department: Tri-Town EMS has met with Hooksett Fire Department to assist them in their transition to the National Registry NCCP Licensing procedure.

Loudon Fire Department: Tri-Town EMS has correspondence with Loudon Fire Department concerning the topic of paramedic intercept agreement.

Pembroke Police Department: Tri-Town EMS has had correspondence with the Pembroke Police Department about specific EMS Incidents, a CPR Course and having the Service provide a training on Penetrating trauma.

Manchester/Boston Regional Airport: Attended a Table Top MCI Exercise.

New Hampshire Bureau of EMS (NH EMS): Tri-Town EMS has had a representative at all medical control board meetings in 2015. Other communications with NH EMS included licensing and training.

SECTION 6: REVENUE AND EXPENDITURES (values represents pre-audit figures and are subject to change)

Revenues: Ambulance Billing: \$328,552.93 Legal Document Request: \$385.00(15)

Detail Coverage: \$1,220.00 (3) Paramedic Intercept: \$800.00 (1)

Total: \$330,957.93

Town Payments: \$481,612.00 (Allentown \$211,909.00 & Pembroke \$269,703.00)

2015 Budgeted Revenue (not including town contributions).....\$130,000.00

2015 Actual Revenue (Billing, Paramedic Intercepts and Details)\$330,957.93

2015 Revenue Difference:\$200,957.93

2015 "CASH per TRIP":\$468.12

Expenses:

2015 Budgeted Expenses:\$611,614.00

2015 Actual Expenses:\$588,118.43

2015 Expense Difference:\$23,495.57

2015 "COST per TRIP":\$831.85

2015 Fund Balance:\$224,453.50

SECTION 7: QUALITY ASSURANCE / QUALITY IMPROVEMENT SUMMARY

- Tri-Town EMS reviews all Patient Care Reports. When significant concerns are discovered, the Service consults Dr. Hirsch, the Service's Medical Director and appropriate corrective action, to include disciplinary action, has been take to rectify the concerns.
- Since spring of 2015, no trends have been seen in providers not adhering to NH EMS Protocols.
- In General, the staff of Tri-Town EMS complies with NH EMS Protocols, providing the indicated treatments.
- Most of the discrepancies discovered are associated with billing information and signatures and the service is constantly reminding the staff to address these items.
- In 2015 the Service started a monthly training program involving an article from two EMS magazines that the staff is instructed to read and take a test. These articles can be used to meet some of the continuing education needs of our staff.
- The Service Assistant Director is continuing to work on the Service's Clinical Manual and a Competency Program to address all the essential skills and equipment of the staff and service.

SECTION 8: DIRECTOR'S COMMENTS

- In 2015, the Service continued its efforts to ensure the highest level of clinical care is being delivered. This function was delegated to the Assistant Director.
- Upon hiring the full time paramedic in summer, she was advised that her job was to go beyond truck checks, station chores and ambulance calls. She was told that she would have on-going projects and special projects. In addition to EMS runs, her tasks includes community outreach projects. The most notable one today, is the development of the Service's Face Book Page of which she is required to update the page at least monthly.

- In the fall of 2015 the Director and Assistant Director successfully completed the NHFST Instructor I Course, and the two of them have been accepted in to the NHFST Instructor II/III Course in March of 2016.
- The Service looked into Mutual Aid, and is taking steps to ensure the process as it involves Tri-Town EMS meets applicable state laws.
- Overtime continued to be a problem during the summer months and in the fall when the Director and Assistant Director were actively taking training courses. This prompted the Director to budget for and subsequently obtain approval for a 4th full time paramedic.
- The Service is actively updating its policies and procedures, making applicable references to State Laws, Administrative Rules and National Accreditation Standards. It is the intent of the service to incorporate nationally accepted procedures that are considered best practices. It is the goal of Tri-Town EMS to meet all applicable accreditation standards by the end of 2016.
- The internet at the Pembroke Fire Station was not reliable enough to meet the needs of Tri-Town EMS. The service worked with ComCast to have a dedicated Internet feed. When this was accomplished, the internet connectivity issues went away.
- The Service uses a lot of ink cartridges for the all-in-one printer which was designed for home use. The 2016 budget reflects the intent to get an office all-in-one unit.
- In late 2014, the Service took delivery of two (2) Mini WiFi units from Verizon Wireless. One was placed in each ambulance and are used to transmit patient data to the receiving hospital. The devices were a step in the right direction. After talking with members of other EMS services, the service will soon change the Mini WiFi out with an air card for each of the PCR Tablets. This should make data transmission more reliable and less complicated.
- Ambulance 3 was the primary ambulance for much of 2015. The two ambulances are getting old and the maintenance is starting to go beyond routine preventative maintenance. Ambulance 3 had electrical issues and transmission issues in 2015. Both of these seem to be reoccurring. In 2016, Ambulance 2 is slated to be replaced.
- Tri-Town EMS licensed both ambulances in the spring of 2015 and renewed the service license in December of 2015. All aforementioned licenses are valid until 2017.
- Tri-Town Volunteer Emergency Ambulance Service signed over all equipment and files to Tri-Town EMS. Upon going through the files, it was discovered that most of the old association's personnel files are missing. TTVEAS and Tri-Town EMS still need to address this issue.
- 2015 saw the birth of a baby in the back of a Tri-Town EMS ambulance. The crew was Advanced EMT Irina Higgins and Paramedic Michael Kelley.

SECTION 9: VEHICLE MAINTENANCE

- Ambulance 2: MILEAGE: 76,996 (2008 Ford E-350 Chassis, 2008 Road Rescue Patient Compartment)
 - Much of the year, the A2 was the back-up ambulance, being used when a 2nd ambulance was needed, used for details and being used when A3 was Out of Service.
- Ambulance 3: MILEAGE: 63,300 (2008 Ford E-450 Chassis, 2010 AEV Patient Compartment)
 - Ambulance 3 was used as the primary ambulance in 2015.
 - All tire were replaced, and snow tires was put on in the fall of 2015
 - Transmission, electrical work (including replacing both batteries) as well as routine preventative maintenance was performed.
 - Stretcher Mount was serviced by EmSar.

SECTION 10: TRI_TOWN EMERGENCY MEDICAL SERVICE LEADERSHIP

- Chairman of the Board of Directors
& Allenstown Town Administrator: Shaun Mulholland
- Pembroke Town Administrator: David Jodoin
- Allenstown Fire Chief: Dana Pendergast
- Pembroke Fire Chief: Harold Paulsen
- Allenstown Member-At-Large: Jennifer Abbot, RN
- Pembroke Member-At-Large: Robert "Bob" Bourque
- Tri-Town EMS Employee Member: Michael Kelley, BSN, NREMT
- Tri-Town EMS Director: Christopher Gamache BS, NREMT
- Tri-Town EMS Assistant Director: Stephanie Locke, NREMT

