

Final Recommendations

TCCOG - Emergency Medical Services Task Force

11 December 2017

Agenda

1. Introduction
2. Recommendations
 - Optimize County EMS Resources
 - Mitigating Call Volume
 - Increasing Volunteerism
 - Increasing Volunteer Recruitment
 - Decreasing Barriers to Volunteer
 - Increasing Volunteer Retention
 - Increasing Predictability
3. Next Steps

Introduction

- Initial Problem Statements:
 - High call volume
 - Decreasing volunteer force
- Highly interdependent, many components
- Developed specific, addressable sub-problems

Goal Weighting

Make the system easy and accessible for volunteers to certify and recertify				Make the system beneficial to first response agencies				Make the system cost-effective									
0.5				0.2				0.3									
				Volunteer Retention		Regulation		Optimize use of human capital, equipment, and financial resources				Costs		Standardize levels of basic service provision			
Make the system easy and accessible for volunteers to certify and recertify				0.75		0.25		0.6				0.2		0.2			
Stabilize paid and volunteer staffing	Increase the number of volunteers in Tompkins County	Address daytime shortages immediately	Develop an EMS training program at BOCES	Improve Leadership for all departments and county EMS services. Leaders have skills to manage.	All organizations (Fire Departments) will attend CQI and meetings	Manage expectations in policy for the public	Loosen regulatory regulations	Optimize use of human capital, equipment, and financial resources	Maximize the effectiveness of current resources	Decrease non-emergency calls	Build number paramedics Career Paramedics now to reduce future demand	Levelize costs for service	Provide a Rescue Squad First Responder Volunteer initially, every time	Reduce stress on ALS ambulances using ELS ambulances or volunteer first responders	Pool EMT resources with local universities (Cornell, TC3, IC)	Make the EMS system reliable for the patient	Satisfy the patient with care from initial assessment to arrival at the hospital
0.1	0.3	0.4	0.2	0.6	0.4												
						0.3	0.7										
								0.1	0.1	0.6	0.2						
											1						
												0.2	0.2	0.2	0.2	0.2	0.2
0.05	0.15	0.2	0.1	0.09	0.06	0.015	0.035	0.018	0.018	0.108	0.036	0.06	0.012	0.012	0.012	0.012	0.012

Goal Weighting

Make the system address Acute Demand failures							Engage/Develop/Recruit Volunteers					Optimize county EMS resources				Create a shared vision for all EMS providers in the		
0.5							0.2					0.1				0.2		
Reduce call volumes			Increase EMS supply				Recruit Volunteers		Retain Volunteers		Develop Volunteers	Optimize (use of human capital, equipment, and financial resources)				Standardize levels of basic service provision		
0.7			0.3				0.5		0.3		0.2	1				1		
Reduce stress on emergency Room and ambulances			Address daytime shortages immediately	Pool EMT resources with local universities (Cornell, TC3, IC)	Build number paramedics Career Paramedics now to reduce future demand	Provide plans for Engine 99 Structural Concept	Improve recruitment outreach	All organizations (Fire Departments) will attend COI and meetings	Stabilize paid and volunteer staffing	Provide stream-lined options for volunteer recertification	Provide continuing medical education classes consistent with National Standards	Optimize use of human capital, equipment in relation to response times	Maximize the effectiveness of current resources (constraint)	Reduce stress on ALS ambulances using BLS ambulances or volunteer first responders	Levelize costs for service	Provide a Rescue Squad First Responder Volunteer initially, every time	Make the EMS system reliable for the patient	Satisfy the patient with care from initial assessment to arrival at the hospital
0.05	0.8	0.15																
			0.5	0.1	0.1	0.3		0.7	0.3									
									0.5	0.5								
											1							
												0.1	0.3	0.3	0.3			
0.018	0.28	0.053	0.075	0.015	0.015	0.045	0.07	0.03	0.03	0.03	0.04	0.01	0.03	0.03	0.03	0.04	0.1	0.06

Goal Weighting

Make the system address Acute Demand failures									Engage/Develop/Recruit Volunteers						Optimize county EMS resources			Create a shared vision for all EMS providers in the county								
0.257									0.247						0.276			0.22								
Reduce call volumes				Increase EMS supply					Recruit Volunteers		Retain Volunteers				Develop Volunteers	Optimize (use of human capital, equipment, and financial resources)			Standardize levels of basic service provision							
0.5				0.5					0.343		0.376				0.281	1			1							
Reduce stress on emergency Room and ambulances	Increase dialogue with long-term care facilities	Increase community-based solutions to respond to non-emergency situations	Increase community-based solutions to respond to mental health situations	Address daytime shortages immediately	Pool EMT resources with local universities (Cornell, TC3, IC)	Determine County and district needs for Paramedics vs lower certification levels	Build "Career Paramedics" now to reduce future demand	Provide plans for Engine 99 Structural Concept	Improve recruitment outreach	All organizations (Fire Departments) will attend COI and meetings	Stabilize paid and volunteer staffing	Define and provide meaningful incentives for volunteer service	Provide leadership training at service agencies	Address "cultural issues" at service agencies	Provide stream-lined options for volunteer recertification	Provide continuing medical education classes consistent with National Standards	Optimize use of human capital, equipment in relation to response times	Begin process of understanding cost associated with non-emergency, or revenue negative calls	Make the EMS system reliable for the patient	Respond with appropriate level of need, by call, to deploy limited resources optimally (Reduce stress on ALS ambulances by using BLS ambulances or volunteer first responders)	Provide a Rescue Squad First Responder Volunteer initially, every time	Satisfy the patient with care from initial assessment to arrival at the hospital	Standardize levels of basic service provision	Collaboratively generate shared understanding of appropriate levels of tiered response for each type of call	Develop a regional response framework to support existing resources during identified critical shortage times	Develop a long term Continuing Quality Improvement (CQI) Plan for EMS response with inclusion by all EMS provider agencies
0.26	0.27	0.24	0.23	0.24	0.15	0.2	0.19	0.22	0.5	0.5	0.24	0.18	0.14	0.22	0.22	1	0.365	0.275	0.37	0.2	0.095	0.13	0.13	0.155	0.18	0.11
0.03341	0.034695	0.03084	0.029555	0.03084	0.019275	0.0257	0.024415	0.02827	0.042360	0.042360	0.022289	0.0167169	0.013002	0.020431	0.020431	0.069	0.10074	0.0759	0.10212	0.0552	0.02622	0.03588	0.03588	0.04278	0.04968	0.03036

Goal Weighting

Engage/Develop/Recruit Volunteers	0.25	Recruit Volunteers	0.34	Improve recruitment outreach	0.5		
				Increase access to certification classes and training	0.5		
	0.25	Retain Volunteers	0.38	Stabilize paid and volunteer staffing		0.24	
				Define and provide meaningful incentives for volunteer service		0.18	
				Provide leadership training at service agencies		0.14	
				Address "cultural issues" at service agencies		0.22	
				Provide stream-lined options for volunteer recertification		0.22	
	0.25	Develop Volunteers	0.28	Provide continuing medical education classes consistent with National Standards			1

The End Result Being...

1. Optimize county EMS resources
2. Mitigate call volume and address acute demand failures
3. Increase volunteerism: recruit and develop
4. Increase predictability and create shared vision





Optimize County EMS Resources

Key Findings

- Response Times
 - Fail to reliably meet NFPA standards for volunteer response (Ithaca: 7.3 minutes, Non-Ithaca: 11.2 minutes)
 - Vast geographical variability exists within response time averages
- Recurring Locations
 - 11 locations outside of Ithaca account for over 10% of all calls
- Responder Type
 - Response times are generally lower in rural areas when rescue first response arrives first



Recommendations

Resource Pooling

- Increase paid paramedics and expand existing ambulance companies
- Develop county volunteer organization, recruiting and funding stream

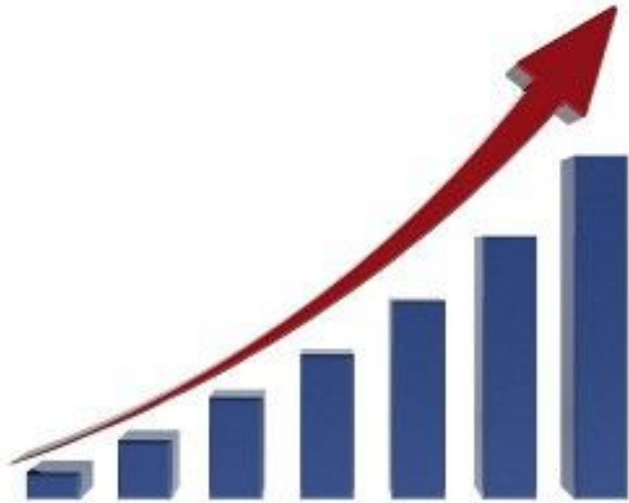
Independent Optimization

- Fire district specific determinant response- remote vs. suburban
- Analyze added value to bunking

Universal Necessities

- Avoid “Moth to Flame Syndrome”- excessive unit response
- Consider firehouses as resources: use for marketing/ incentivization





Mitigate Call Volume and Address Acute Demand Failures

Key Findings

- Calls by Quantity
 - Calls by population is not significantly higher in districts with recurring call facilities (Ulysses- 119)
- Calls by Type
 - “Sick Person” and “Falls” nature account for 30% of all calls
- Calls by Time
 - Approximately 11 calls per day, fluctuates in winter months, during school months (Ithaca), and throughout the week



Recommendations

Call Volume Mitigation

- Rural locations implement a first response system for non-EMT personnel “Good Neighbors”
- Medical professionals at recurring locations/ accountability system

County Collaboration

- Implementation of a “Battalion” volunteer pooling system
- County training program and training program director
- Mitigate transportation calls





Increasing Volunteer Recruitment

Key Findings

Internet searches

Public advertisements

Word-of-mouth



Recommendations

Leverage online websites and Facebook pages

- Maintain up-to-date recruitment and contact information
- Include pictures and anecdotal quotes

Leverage public advertisement through ads, flyers and billboards

- Continue posting flyers on college campuses
- Post in local newspapers about community engagement and recruitment events





Decreasing Barriers to Volunteer

Key Findings

- Certification and recertification
- Full-time job
- Children and family
- High stress nature of EMS delivery and burn out



Recommendations

Utilize online recertification methods

Establish a sense of community where all members are valued

- Arrange biweekly or monthly gatherings for all agency volunteers
- Hold agency leaders accountable for fostering an inclusive environment and culture





Increasing Volunteer Retention

Key Findings

- Incentives
 - Resources
 - Skills training
 - Subsidized certification costs
- Culture and Leadership
 - Community engagement
 - Sense of purpose



Volunteer Survey Quotations

Question: Please describe your primary reasons for leaving your volunteer agency.

- Culture and Leadership

"I felt unwelcomed and underappreciated. I ran into one too many occurrences of unsafe operations. Bringing on dozens of college students, failing to provide sufficient trainings, and covering up mistakes really caused me to leave. Things need to change."

- Stress

"Very high stress, required to memorize large amounts of information, having to assume more responsibility than I am comfortable with, more-experienced EMS providers behaving rudely due to my inexperience."

- Time

"Unable to put in hours."



Recommendations

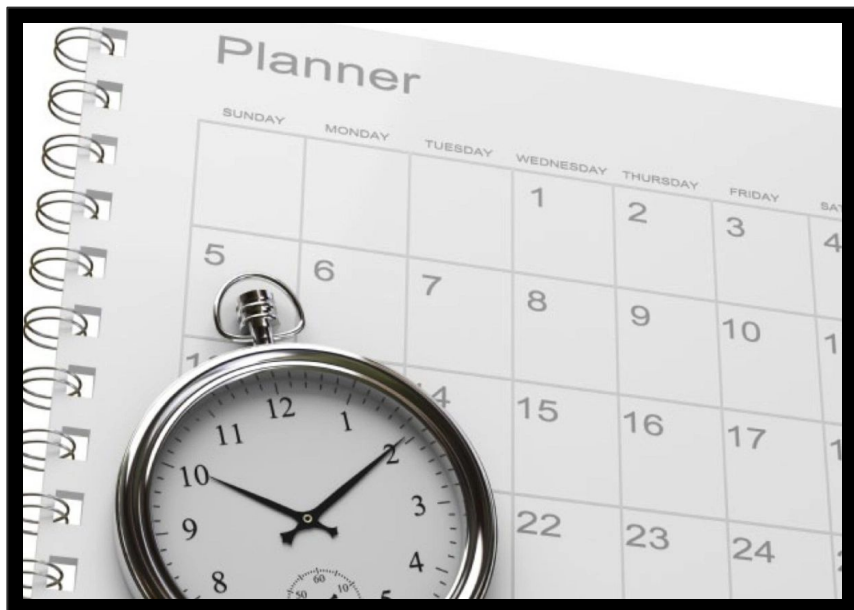
Provide regular EMS training opportunities for volunteers

- Offer trainings at accessible hours to working individuals

Set a regular scheduling process

- Establish a set volunteering, probationary training, and ongoing training schedule to help volunteers allocate time to volunteering





Increasing Predictability

Key Findings

- Failure to respond
 - Varies greatly by district: standards, personnel pool, certifications
 - Directly reduces predictability



Key Findings

- Failure to respond
 - Varies greatly by district
 - Directly reduces predictability
- Unknown Personnel Assets
 - Daily/Yearly



Key Findings

- Failure to respond
 - Varies greatly by district
 - Directly reduces predictability
- Unknown Personnel Assets
 - Daily/Yearly
- Non-uniform Standards of Response



Recommendations

Create a county-wide document of shared understanding

- **Standardized levels of basic service provision**
- Recurring reporting chain
- The level of asset required for the emergent-level of call
- **County-wide standardized performance metrics for patient care**
- The response of a first response unit to calls of every determinant
- **The requirement of periodic reports on volunteers, staff, certification information, and assets of the agency**



Recommendations

Create a county-wide document of shared understanding

Require shift-resolution personnel reports

- Start of shift, day, week, month...
- Activatable ambulances



Recommendations

Create a county-wide document of shared understanding

Require daily personnel reports



Develop Quality Assurance Program

- Follow-up for performance metrics
- Trajectories for volunteers and calls
- Iterative feedback on selected solution components



Solution Summary: Cost vs. Value

Solution Fragments: Cost vs. Value Relationship

 Value: Reliability, Response Time						Increase Paid Force	
			Social Marketing		Battalion Concept	County Volunteer Org	
			Non-EMT First Response	College Recruitment			
	County Document	Quality Assurance Prog	Public Advertisement	Bunking	County Training Prog		
	"Good Neighbor"	Personnel Reports	Community Presence	EMS Skills Training			
	Volunteer Scheduling	Selective Response	Firehouses for Marketing	Restrict Transport Calls		Recurring Location RNs	
	Avoid Moth to Flame						
	 Cost: Time, Money, Resources						

Next Steps

Potential Future Analysis

- Expand analysis of paid paramedic population; define municipal, legal, monetary implications of specific solutions; *solution implementation plan*

Systems Analysis

- Model and simulate impacts of solutions on key measures of success

EMS Task Force

- Define cost vs. value relationship of solutions
- Refine solutions and select final components
- Take action on simple solutions immediately



Questions