BUNCOMBE COUNTY GOVERNMENT
NORTH CAROLINA

Buncombe County Government

George Wood
Interim County Manager

January 30, 2019
Memo to: Board of Commissioners
From: George Wood, Interim County Manager
Re: Recommendations on Medic Request and EMS System Staffing Levels

Recently you asked that I make a recommendation on whether Medic should be allowed to use the County's 700 mhz radio system, and to take calls when they are nearest to an incident. In studying that issue, I needed to study the entire organizational structure to understand how Medic fit into the overall emergency medical response environment. In doing so, I found a second issue that needs to be addressed: the staffing levels of our EMS system.

The current system consists of the following:
10 Ambulances: Buncombe County Emergency Medical Services, supplemented by:
7 Ambulances from six volunteer fire departments: Barnardsville, Reems Creek, Riceville, Fairview, Skyland, and Leicester.
2 Ambulances from the Buncombe County Rescue Squad.
19 Ambulances not counting backups and reserve units

So, if fully staffed, this is the number of ambulances that might be available, depending on whether they can be fully staffed by EMS, the VFDs and the Rescue Squad. The other ambulance provider in Buncombe County is Medic. It is currently franchised by the County as a convalescent provider, meaning it can provide NEMT (non-emergency medical transports) in the unincorporated areas of the County. Our franchise ordinance only applies to those areas, as the municipalities have not adopted our ordinance. This means Medic can operate as an ambulance service within the municipalities. However, all emergency medical dispatching of calls is done by the County's 911 Center, and Medic can only respond to calls specifically dispatched to it. While our franchise is technically limited to NEMT calls, we use Medic as an ambulance when we are short in coverage areas. Therefore, we need to amend this franchise ordinance to reflect how we actually operate.

Medic has seven state-certified ambulances, per Mr. Kermit Tolley, the owner. He operates out of one station in Skyland. However, he distributes the ambulances around the city and county, particularly as County 911 Center needs him to cover an area where either a County EMS unit, or a VFD or Rescue Squad unit cannot provide the coverage. Mr. Tolley is asking to be allowed to use the County's 700 radio system, as that is what we dispatch on rather than the old VHF system. He is having to use the VHF system. He is also asking that he be dispatched if it is determined one of his units is closest to an incident.

Previously, a concern has been that he should not have access to other public safety radio traffic. However, in recent years a lot of sensitive radio traffic has been encrypted so that it cannot be

picked up by scanners. Secondly, a lot of dispatching today actually is not by radio, but by typing into a mobile date terminal (laptop computer) in the vehicles. Finally, we can restrict his access to only EMS channels and Fire channels. He will need the fire channels as fire departments are often the first responders on a scene. They can communicate to the dispatched ambulance the initial assessment of the patient(s) as the ambulance is enroute to the scene. Mr. Vehaun, our Emergency Management Director is agreeable to this situation with these limitations, as is Mr. Tolley.

When we get a call, our CAD, computer aided dispatch, automatically identifies the three closest stations to handle the call. That is because all 10 of the EMS System ambulances are housed in stations, as are the VFD and Rescue Squad units. All are equipped with AVL (automatic vehicle locators) using GPS, so our dispatchers know where each unit is. They also know which units are already on a call and are unavailable to take another.

With Medic's units moving around to various locations, often at our request, they are not in a station, and consequently are not automatically in the CAD automatic dispatch queue. That is why we need to require that Medic place AVLs on all its units it wants to deplore for service. Then we will know where they are. Mr. Tolley has agreed to this.

The Bost Report, which you had prepared two years ago, gives a good overview of the system, and the key issues. It is attached for your reference. He was not in favor of allowing Medic to provide full ambulance services, citing a possible loss of revenue for our system, and questioned how it could be fully integrated. In discussing this with Mr. Vehaun, we believe any revenue loss will be minimal. If we can work out the logistics of dispatching, we should be able to integrate this service at no cost to the County, other than the revenue cited above. I should also point out that Medic EMS is a 501(c)3 non-profit, just like our VFDs and Rescue Squad. So legally, there is no difference in their structure.

With that background, my recommendation to you is to amend the current franchise agreement to allow full ambulance services by Medic within the unincorporated areas of the County for a period of one year to see how it works out, subject to the following conditions. If you are pleased with the service level, the franchise can be extended for more years. Mr. Tolley is in agreement with all of these conditions:

1. Require AVLs on all Medic ambulances that he intends to deploy for full ambulance services. Medic would pay the same annual fee as we charge the VFDs to be on this service.
2. The AVL must be activated at all times that a Medic unit is available to take calls.
3. Require that Medic agree to station ambulances in locations assigned by County 911 Center in order to provide adequate coverage throughout the County. (This is currently being done.)
4. Hold Medic to the same standards for equipment and drugs on an ambulance, and personnel (training, certification, and staffing levels ie., number of intermediate EMTs and paramedics per unit) as we require of County EMS and the VFDs.
5. Require insurance and a hold harmless clause to protect the County from any litigation arising from how Medic personnel respond to a call.

6. Clearly state that there will be no "self-dispatching". All calls into the County 911 Center must be dispatched to a specific unit as the County is legally liable for properly handling any call received by the 911 Center.
7. Medic must immediately respond to a dispatch call from 911 Center either accepting or rejecting the call, so there is no delay in response.
8. Medic must follow all EMS protocols on informing the 911 Center of a) acceptance of the call, b) arrival on the scene, c) enroute to the hospital, d) arrival at the hospital, and e) back in service and available for calls. All radio traffic is recorded and timed, so that we can determine the precise times for all these steps. These are put into our reports as well, to assess how quickly we are responding to patients.

In reviewing this, I got into the details of our operation, and why we have had complaints of having to work extra shifts. It is apparent that we are short on full-time personnel, and are having to make up for it by calling back our personnel for overtime, and using part-time personnel.

If you look at the attached charts, you can see the shortages. We staff each ambulance with at least one paramedic and one intermediate EMT. In some cases we may have two paramedics on a unit. Our personnel work a 24/48 schedule, meaning they work 24 hours, then are off for 48 hours. This is a schedule also used by most fire departments. We have one wrinkle on this. While they work 24 hours straight, we consider a "shift" 12 hours. So as you look at the chart, when we look at "open shifts" that is not a 24-hour period, but a 12-hour period.

Section A gives you a look at 7 consecutive actual days from Dec. 8th through Dec. 14th. The critical information is to look at the number of "Open Shifts", which are 12-hour periods when we did not have enough personnel. So on Dec. 8th, we were short 10 12-hour shifts, or 5 24-hour days. The result is that 3 units were down in the AM, and 2 units were down in the PM. Note that two personnel were out on FMLA Leave, and four called in sick. This is a perfect example of our staffing problem. For the week, we had 6 units that were down in the AM, and 4 down in the PM.

Section B looks at the 26 biweekly pay periods in our fiscal year. The critical line again is the "Open Shifts". So, in the first biweek, we had 24 open shifts (12-hours) or 12 24-hour days that not enough personnel were available to staff all 10 ambulances. As you add those "Open Shift" numbers you see the magnitude of the problem.

In Section C, we took the 2018 numbers from Section B and assumed that we had added three additional personnel to the payroll. As you can see, the Open Shifts drop dramatically. What is then needed is more flexible personnel that we can call in on short notice to fill-in for someone calling in sick. You can schedule for vacations, jury duty, FMLA Leave, and similar known absences, but the critical scheduling issue is unscheduled absences that happen just before the shift.

You can see that even with 3 additional personnel, we still have a lot of "Open Shifts". Consequently, I am recommending the following to correct this problem and properly staff the EMS System:

1. Hire four paramedics by March 1st to better staff the EMS. The cost would be for 1/3 of a fiscal year. Per the HR Department, to hire a paramedic with benefits, is $83,620. So, a

full-year would be $334,480, and 1/3 of a year for FY 2019 would be $111,493.33. Bear in mind that with the additional staffing, we should decrease our use of overtime, which will offset some of this additional cost. I recommend that we fund this in FY 2019 from General Fund fund balance.

2. Allow the Emergency Management Director to adjust part-time and temporary positions and assigned hours to give him the maximum flexibility within the same money to deal with sick leave scheduling issues.

These two changes should provide better coverage and improve response times, and minimize the times that any of our 10 ambulances are out of service due to insufficient personnel. It goes without saying that the EMS response times can be literally life-and-death situations. So, this service has to be adequately staffed at all times.

Please call me if you have any questions or comments on this matter.

Staffing & Scheduling

3 shifts working 24/48 (A B C) on a two-week pay cycle	588 shifts
1 supervisor	2 shifts/per day
10 staffed ambulances with 2 medic's	40 shifts/per day

The maximum amount of scheduled annual leave per day is 6 shifts with a weekly maximum of 28 shifts.

The regular work day is 12 hours but consist of AM and PM shift equaling 24 hours.

A. Snap shot of schedule week

	12/8	12/9	12/10	12/11	12/12	12/13	12/14
Annual	6	0	2	4	0	6	0
FMLA	2	2	4	2	2	6	0
Sick	4	2	1	0	0	2	4
FT Staff	30	34	36	34	37	28	35
PT Staff	1	5	8	8	3	4	5
OT Staff	1	1	0	0	0	3	1
Open Shift	10	2	0	0	2	5	1
Unit Down AM	3	1	0	0	0	2	0
Unit Down PM	2	0	0	0	0	1	1
Extra Unit AM			1				
Calls	68	80	51	92	78	81	80

B. Total impact of staffing shortage for 2018 per pay cycle

Pay period	1	2	3	4	5	6	7	8	9	10	11	12	13
Start date	1/6	1/20	2/3	2/17	3/3	3/17	3/31	4/14	4/28	5/12	5/26	6/9	6/23
EMS 10	16	7	16	23	6	21	13	19	12	22	6	23	21
EMS 5				2				4	3	2	1	11	
EMS 2/12	6	4		4	2	1		3	1	11	4	5	8
Open Shifts	24	11	16	19	8	22	13	26	16	35	11	39	29

Pay period	14	15	16	17	18	19	20	21	22	23	24	25	26
Start date	7/7	7/21	8/4	8/18	9/1	9/15	9/29	10/13	10/27	11/10	11/24	12/8	12/22
EMS 10	12	16	20	12	34	25	31	21	38	31	26	27	16
EMS 5		9	11	2	1	4	7		14	9	6	6	2
EMS 2/12	1		2	1	6	15	10	2	6	4	3	5	
Open Shifts	13	25	33	15	41	44	48	23	58	44	35	38	18

C. Total impact of staffing increase for 2018 per pay cycle if we added 3 fulltime employees and they had no missed days of work

Pay period	1	2	3	4	5	6	7	8	9	10	11	12	13
Start date	1/6	1/20	2/3	2/17	3/3	3/17	3/31	4/14	4/28	5/12	5/26	6/9	6/23
EMS 10	9		3	12	1	2	8	5	11	10	1	20	10
EMS 5												2	
EMS 2/12	4	4		1					2	6	4	1	3
Open Shifts	13	4	3	13	1	2	8	5	13	16	5	23	13
1 Unit Plus	1	4	3		5	6	3	4	4		4	4	3
EMT Extra	7	18	13	13	19	11	11	13	11	9	18	5	8

Pay period	14	15	16	17	18	19	20	21	22	23	24	25	26
Start date	7/7	7/21	8/4	8/18	9/1	9/15	9/29	10/13	10/27	11/10	11/24	12/8	12/22
EMS 10	5	8	12	10	17	12	17	5	26	20	15	12	6
EMS 5			6			2	2		4	2	2	4	
EMS 2/12					2	12	8	2	12	2		2	
Open Shifts	5	8	18	10	19	26	27	7	42	24	17	18	6
1 Unit Plus	6	5	2	3		4		1	1				6
EMT Extra	14	6	10	10	2	5	7	11	4	8	10	5	10