

Final Report

Emergency Medical Services System Study Giles County, Virginia December, 2007

Prepared for:
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I. Executive Summary

The Virginia Department of Health, Office of Emergency Medical Services (hereinafter mentioned as “OEMS”) was engaged by the Virginia Department of Health, Office of Health Policy and Planning (hereinafter mentioned as “OHPP”) to provide a comprehensive assessment of the EMS system surrounding the Critical Access Hospital, Carillion Giles Memorial Hospital (hereinafter mentioned as “CGMH”), located in Pearisburg, Giles County, Virginia, which is one of seven hospitals in Virginia that has been designated as a CAH facility. This assessment is part of a larger study, evaluating EMS systems in the counties surrounding the Critical Access Hospitals (hereinafter mentioned as “CAH”) in the Commonwealth of Virginia. CAH Designation criteria are defined as follows:

- Physical location in a state that has an established Medicare Rural Hospital Flexibility Program (Flex Program)
- Be located in a rural area
- Provide 24 hour emergency care services, using on site or on call staff
- Provide no more than 25 inpatient beds
- Have an average length of stay of 96 hours or less; and
- Be either 35 miles from another hospital or another CAH, or 15 miles in areas with mountainous terrain or only secondary roads.

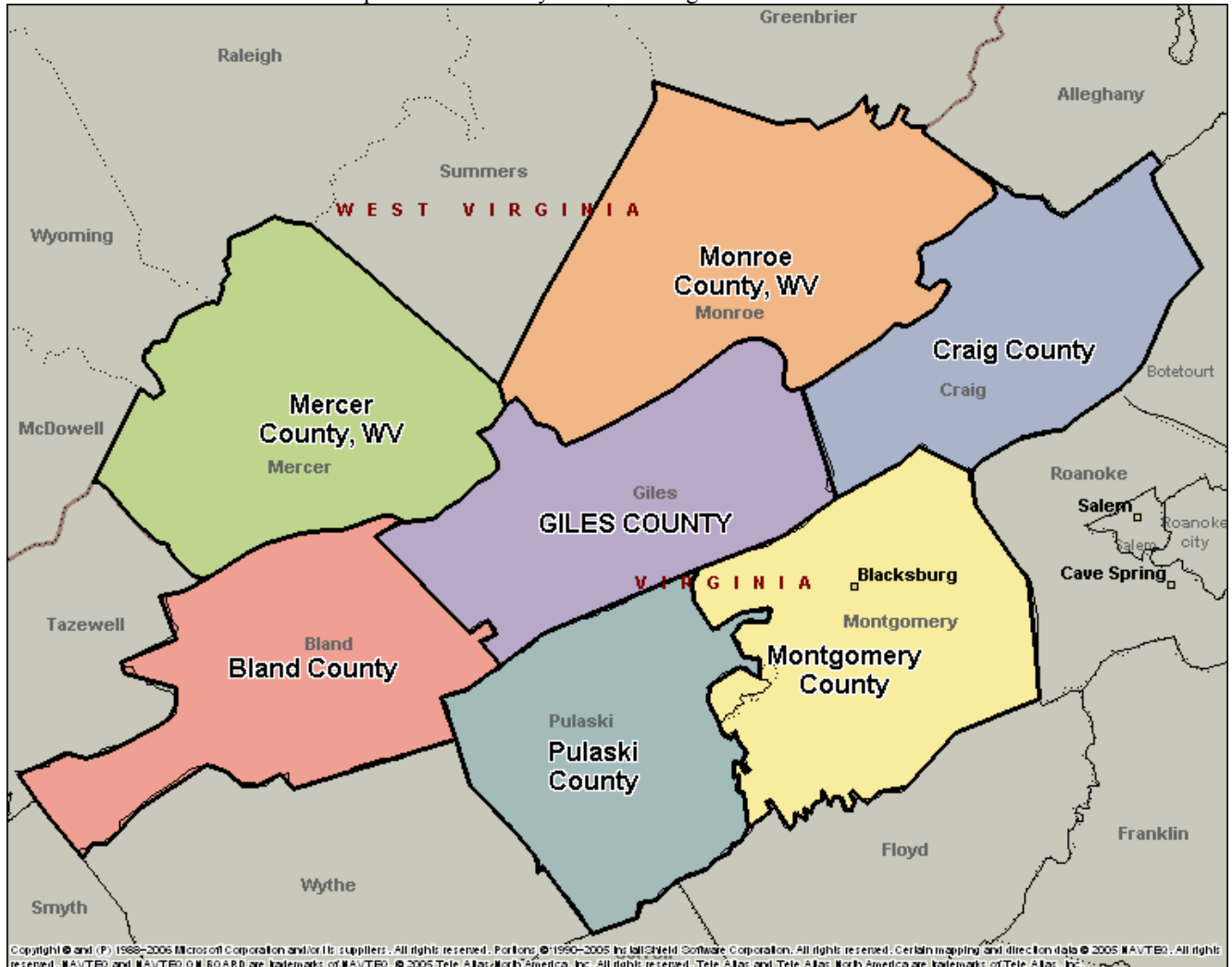
During the latter half of 2007, staff from OEMS, with assistance from subcontractor agencies, performed the assessment of both the hospital itself, and the agencies that serve the county the hospital is located in. This assessment included development and distribution of surveys, interviews with system stakeholders, and review of pertinent documents.

Recommendations, based on key findings in eight different study areas appear at the end of this report. The Office of EMS believes that each one of the recommendations will have a positive impact on the EMS system in Patrick County, and remains ready to assist the agencies in Patrick County to implement each of the recommendations, and provide technical assistance as needed.

II. Introduction

Giles County, Virginia is a predominantly rural county located in the southwest portion of the Commonwealth of Virginia. It is bordered by Bland, Craig, Montgomery, and Pulaski Counties in Virginia, as well as Mercer and Monroe Counties in West Virginia (see Map 1).

Map 1 – Giles County and Bordering Counties



According to the 2000 Census, the population of Giles County is 16,657 people. The county size is 360 square miles, with a population density of 47 people per square mile.

The age distribution among the residents of Giles County is as follows:

- 22 % are under the age of 18.
- 6.8% are in the 18 to 24 age group.
- 28.4% are in the 25 to 44 age group.
- 26.1% are in the 45 to 64 age group.
- 16.7% are 65 or older.

The median age is 40 years old.

Additionally, the gender distribution is 100 women to 95.6 men; and 100 women to 92.2 men over 18 years of age.

Race distribution is as follows:

97.4% White

1.5% African American

Less than 1% of the following groups, respectively:

Native American, Asian, Hispanic/Latino, and "other".

The county seat of Giles County is the city of Pearisburg, which is also the location of CGMH, Giles Lifesaving and Rescue, and the county sheriff and county administration offices.

CGMH is a not for profit hospital owned and operated by Carilion Health Systems, and has had designation as a CAH facility since 2002. During their designation process, no deficiencies were noted, no recommendations for specific needs or initiatives related to the EMS system were made during the designation process, and no changes in any policy or procedure have taken place as a result of designation. CGMH has also been accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and the College of American Pathologists (CAP), having successfully completed a JCAHO inspection in 2006. CGMH has a capacity of 25 beds in the entire facility.

CGMH is the only hospital within the geographic boundaries of Giles County. While there are seven long term care facilities located within a 20 mile radius of CGMH, only one, the New River Healthcare Complex, is closer to CGMH than to another facility.

The CGMH Emergency Department (ED) is open and staffed 24 hours a day/7 days a week, and has a five bed capacity, with plans to expand in the near future. Plans are in place to build a new facility in the Pearisburg area. Giles County government is providing the site of the new facility, as well as financial and material contributions. The current hospital and grounds will be used to house the Giles County Administration Offices, once the new facility is complete.

During interviews with CGMH representatives, the lack of ED beds was mentioned as a significant issue for the facility.

There are four EMS agencies in Giles County that are licensed by OEMS. They are Carilion Patient Transport Services, Giles Lifesaving and Rescue Squad, and Newport Volunteer Rescue Squad. All the agencies, with the exception of Carilion Patient Transport Services are volunteer staffed agencies.

III. Purpose and Methods of the EMS System Study

As outlined in the scope of services within the Memorandum of Agreement between the OHPP and OEMS, the following areas are to be addressed in the pages to follow:

1. Examination of Network Agreements for CAH Certification
2. Study Survey
 - 2a. Questions for EMS Personnel for assessing EMS capabilities in agencies in areas served by the CAH.
 - 2b. Develop questions for CAH personnel for the purpose of assessing the overall function of the local EMS system
3. Study Components
 - 3a. Demographics of the CAH area
 - 3b. Staffing of the local EMS System
 - 3c. Placement of units on basis of call volume and population density
 - 3d. Training Initiatives
 - 3e. Communications
 - 3f. Resource Management
 - 3g. Fiscal Support
 - 3h. Medical Direction
 - 3i. Quality Assurance
 - 3j. Mass Casualty Preparedness
 - 3k. System Partnerships
 - 3l. Hospital Capabilities
4. Recommendations

To accomplish this task, the Virginia Office of EMS:

1. Partnered with the Western Virginia EMS Council (hereinafter mentioned as “WVEMS”) to assist OEMS in addressing some of the items listed in the scope of services above. A report from WVEMS was received by OEMS in August of 2007, and is Appendix “X” of this report. Information from the WVEMS report is included in various different sections of this report.
2. Formal interviews were conducted with various stakeholders of the EMS System in Giles County, including the Giles County Administrator, the Giles County Sheriff, and the Giles County 911 Coordinator. Additionally, formal interviews were conducted with staff from CGMH, including the Chief Executive Officer, the Director of Nursing for the Emergency Department, as well as the Carilion Patient Transport Services (hereinafter mentioned as “CPTS”) Coordinator. These interviews were held to gather information regarding the relationship between the CAH and the EMS System, and vice versa, as well as to determine the capabilities of both the CAH, and the EMS System in Giles.

3. The three EMS agencies in Giles County, CPTS, Giles Lifesaving and Rescue, and the Newport Volunteer Rescue Squad all participated in a survey to gather some additional information about the EMS system capability, as well as the relationship with the CAH. A copy of the survey, as well as the responses from the services themselves is attached to this report, as Appendix "X".
4. Several documents were reviewed in preparation for the study report, including:
 - All documents related to the CAH designation by CGMH.
 - EMS network agreements for CGMH, as required in the original CAH certification application.
 - OEMS licensure database information to determine the number and age of EMS vehicles of each of the agencies operating within Giles County.
 - OEMS PPCR database information for all EMS calls within Giles County for calendar years 2005 and 2006.
 - OEMS Training database information for all certified EMS providers within Giles County.
 - Mutual Aid agreements existing between agencies in Giles County.
 - Rescue Squad Assistance Fund (RSAF) information for all EMS agencies within Giles County for 1997-2006 grant cycles, including items awarded and denied.

IV. Study Results

The results of the study of the EMS System and the Critical Access Hospital in Giles County brought forth a great deal of information. As mentioned previously in the purpose and methods of the study, several components were examined.

Demographics:

Demographic information for Giles County was mentioned in the Introduction section of this report, and seems to be relatively similar to other rural counties and areas within the Commonwealth of Virginia, and other counties that were examined as part of the CAH Study.

Staffing:

There are 72 certified EMS providers in Giles County. The distribution of providers by level is below:

Table 1 – Distribution of Certified Providers in Giles County

Certification Level	Number of Certified Providers
Emergency Medical Technician (EMT)	52
EMT – Paramedic (EMT-P)	10
EMT – Enhanced (EMT-E)	7
EMT – Intermediate (EMT-I)	2
EMT – Cardiac Technician (EMT-CT)	1
Total	72

Source: Virginia OEMS Division of Educational Development Provider Database

Staffing of local EMS agencies within Giles County varies from volunteer to career agencies; and in numbers as well. As mentioned previously, three EMS agencies are currently licensed in Giles County; CPTS, Giles Lifesaving and Rescue, and the Newport Volunteer Rescue Squad. All three EMS agencies are licensed at the Advanced Life Support (ALS) level, and provide ground transportation via ambulance. The Celanese Corporation, which is located within Giles County provides EMS service to its own company grounds, and only responds off site within an eight mile radius in a mutual aid situation.

Giles Lifesaving and Rescue and Newport VRS provide volunteer 911 on call coverage 24 hours a day, 7 days a week. However, neither agency has dedicated in house staffing. Giles Lifesaving and Rescue has 45 active members and inactive members with an age range of 16 years of age to 70 years of age. Newport VRS has 30 active members, with an age range of 18 to 68 years of age. The majority of providers for both agencies are Caucasian.

The only career EMS service is CPTS, which is part of CGMH. CPTS provides dedicated 24 hour a day, 7 days a week service to Giles County, however, only one ambulance is dedicated to 911 response out of 4 ambulances in the CPTS fleet. This dedicated 911 ambulance is available 16 hours a day, and provides the majority of daytime

EMS service to the county. If a call comes in while that vehicle is out on another call, then that call is turned over to one of the other vehicles in service, if available.

CPTS has 25 employees on staff, which are Carilion employees, and range from 20 to 62 years of age. About half of those employees also volunteer with either fire or EMS agencies in Giles County when not working for CPTS. All current CPTS employees are Caucasian.

Recruitment and retention initiatives currently in place for these agencies are training either for free, or at a discount, observer programs, and other initiatives offered through the Virginia Association of Volunteer Rescue Squads (VAVRS). For CPTS employees, they are offered the same benefit packages as other Carilion Health System employees, and has little turnover.

Placement of Units

One of the struggles in reviewing data related to call volume in Giles County is that CPTS is one division under a greater agency license, which incorporates EMS response territories outside of Giles County.

Average response times vary for the three agencies within Giles County, varying from 1-2 minutes for the CPTS unit that is dedicated to 911 response, to 15 minute responses for Newport VRS. Giles Lifesaving and Rescue, which has an average response time of 6.5 minutes, has strategically placed units in substations in Pembroke and Glen Lyn to improve response times over the past 6 plus months.

EMS Training Initiatives

The EMS training and continuing education (CE) opportunities for agencies and providers in Giles County are relatively plentiful. EMS providers in the county are fortunate in the fact that courses are available in county, and do not require travel outside of the county, which providers in similarly rural counties often have to do in order to receive the training that they need.

Much of the ALS CE hours are provided by WVEMS, as well as EMT-Enhanced courses. An EMT-Enhanced course was offered earlier in 2007, and three providers from Giles County enrolled and became certified as EMT-E's. WVEMS offers a minimum of 48 ALS CE hours to providers in Giles County per year, and also offers International Trauma Life Support (ITLS), Pediatric Education for Prehospital Professionals (PEPP), and will be offering Advanced Medical Life Support (AMLS) courses in 2008. Three Giles County EMS providers completed PEPP courses and four others completed ITLS courses over the past three years. Additionally, an EMT-Basic course is offered in Giles County once per year.

CGMH is quite active in the training and education of the EMS providers in Giles County. CGMH offers certification in ACLS, PALS and Neonatal Resuscitation Program

(NRP). CGMH also supervises students enrolled in initial EMT certification courses. CPTS employees are required to attend training sessions held by the Carilion Training Division.

Communications

Giles County has had Enhanced – 911 (E-911) since 1992. EMS dispatch is connected to the Giles County Sheriff's office, and uses radio paging to contact EMS agencies. All three EMS agencies in Giles County utilize radio and/or cellular phone communication to communicate with the CAH. These agencies provide patient report information prior to their arrival to the hospital 75 to 100% of the time. Additionally, Newport VRS has two cardiac monitors with the ability to transmit information to the CAH ED.

Certain area of Giles County have “dead areas” where radio and cell phone communication are not possible, however, Department of Homeland Security grant funds are being utilized to upgrade the county communications system to high frequency VHF, which can use frequencies used in adjoining counties. Additionally, the number of cellular phone towers in Giles County is increasing. Upgrades in cell phone coverage were provided to CPTS and the CAH by the Near Southwest Preparedness Alliance (hereinafter mentioned as “NSPA”), and uses cell towers in Monroe County, WV to help increase coverage areas.

Resource Management

There are 13 permitted EMS vehicles among the 4 agencies in Giles County. This includes 11 Ambulances and two ALS first response vehicles (A Ford Explorer and a Buick Sedan owned and operated by Giles Lifesaving and Rescue).

As of the last inspections of each agency in Giles County by OEMS field representatives in April and May of 2006, all vehicles were in good working condition, without any mechanical failures noted in inspection reports. The vehicles range in age from 4 to 19 years of age at the time of inspection. According to inspection reports, each vehicle is equipped at the ALS level.

In terms of aeromedical service, Giles County is primarily served by Carilion Lifeguard 10, which is connected to Carilion Roanoke Memorial Hospital. Based on review of PPCR data from 2005 and 2006, Lifeguard responded to calls in Giles County 12 times, and 46 times, respectively, with no explanation available for the increase in volume.

Fiscal Support

Giles County receives \$15,125.73 in “Return to Locality” funding from the Virginia Department of Health from the “Four for Life” revenues from passenger vehicle registration. The Code of Virginia states that the Department of Health shall return twenty-six percent (26%) of the registration fees collected to the locality wherein such vehicle is registered to provide funding for EMS Training of volunteer or salaried emergency medical service personnel of licensed, nonprofit emergency medical service agencies; or for the purchase of

necessary equipment and supplies for licensed, nonprofit emergency medical service agencies. Giles County uses these funds to assist in matching funds for equipment purchases by the EMS agencies within Giles County.

In addition, Giles County assists in subsidizing the business operation expenses for the CPTS 911 response in Giles County.

Of the three main EMS agencies in Giles, only CPTS and Giles Lifesaving and Rescue have fee for service programs in place. The CPTS collection rate for interfacility transfers is 38%, and the Giles Lifesaving and Rescue collection rate has ranged between 26 and 50% over the past year. Giles Lifesaving and Rescue bills the patient's insurance company, but will seldom bill the patient for the fee for service.

Rescue Squad Assistance Fund – Recent History

Giles County agencies have had active participation in RSAF grant processes, upon in review of RSAF records dating back to 1997. In that time, the Giles Lifesaving and Rescue Squad, as well as the Newport Volunteer Rescue Squad have been awarded funds for equipment purchases at a total of \$221,514. Neither the Celanese Corporation Emergency Brigade, nor CPTS are eligible for RSAF awards, as they are not non-profit entities.

Items of note include the fact that Newport Volunteer Rescue Squad has not applied for any RSAF funding since June of 2005. Giles Lifesaving and Rescue Squad did not apply for RSAF funding between 1997 and 2004.

The table below outlines RSAF grant awards for agencies in Giles County. This includes the cycle that the grant was awarded, the item that was requested, the amount of the award, and the percentage of matching funds by the agency for each awarded item.

Table 2 - RSAF Awards for Giles County – December 1997 to June 2007

Giles Lifesaving and Rescue Squad			
Grant Cycle	Item	Amount	Percent of Fund Match By Agency
12/1997	1 Ambulance	\$48,000.00	20%
06/2004	1 Ambulance	\$32,936.50	50%
06/2006	1 TV/VCR/DVD Combo player	\$250.00	50%
06/2006	1 Laptop Computer	\$500.00	50%
06/2006	1 CPR Manikin	\$2,250.00	50%
06/2006	1 Infant Intubation Trainer	\$200.00	50%
06/2006	1 Pediatric Intubation Trainer	\$200.00	50%
06/2006	1 Light Duty Rescue Vehicle	\$42,500.00	50%
06/2007	Extrication Tools	\$21,347.00	50%
	Total Award Amounts	\$148,183.50	

Newport Volunteer Rescue Squad			
Grant Cycle	Item	Amount	Percent of Fund Match By Agency
12/1997	10 Monitoring Pagers	\$750.00	20%
06/2001	Ambulance stretcher	\$1,300.00	50%
06/2001	4 mobile radios	\$1,257.60	20%
06/2001	10 portable radios	\$3,576.00	20%
06/2002	1 Ambulance	\$51,885.20	20%
06/2004	10 Monitoring Pagers	\$2,400.00	20%
12/2004	1 Defibrillator	\$11,342.00	20%
06/2005	1 Desktop Computer	\$880.00	20%
	Total Award Amounts	\$73,360.80	

Source: Virginia OEMS RSAF Grant Awards Database

Medical Direction

There are three Operational Medical Directors (OMD) affiliated with the agencies in Giles County, Drs. Douglas Scott Hayes, Carol Gilbert, and Julia Weiseman. Dr. Hayes is the OMD for Giles Lifesaving and Rescue and Celanese Corporation EMS, Dr. Gilbert is the OMD for CPTS, and Dr. Weiseman is the OMD for the Newport VRS. Both Dr. Hayes and Dr. Gilbert are also affiliated with Carilion Health Systems. All three have been intimately involved in the development, regular review, and revision of all treatment and transport protocols utilized by EMS agencies and providers in Giles County, as well as active participation in the Performance Improvement (PI) and Trauma Performance Improvement (TPI) programs at the agencies that they are affiliated with.

Dr. Hayes is an ED physician at CGMH, and is an active member of Giles Lifesaving and Rescue, often responding to EMS calls in Giles County himself. He personally supervises EMS providers in the field as well as rendering care, and provides medical direction from the ED as well.

Dr. Weiseman is an ED physician at HCA Montgomery Regional Hospital in Christiansburg, VA, and actively participates in training and Performance Improvement programs at Newport VRS.

Dr. Gilbert is well known and well respected in the EMS community, not only in Giles County, but across the Commonwealth from her many years of service as the State Medical Director, having stepped down from that position in early 2007. She has been an active participant in building the EMS system in Virginia. As a physician with Carilion, she has been involved in the establishment and maintenance of the CPTS PI program for the entire CPTS division.

In addition to the OMD support, Giles County EMS providers utilize the protocols established by the WVEMS Medical Direction Committee for off-line medical direction, and are able to receive on-line medical direction from the CGMH ED at any time.

Quality Assurance

In calendar years 2005 and 2006, a total of 1,204 and 2,066 PPCR reports were submitted to OEMS by agencies in Giles County. This number is based on EMS responses based in Giles County only. As the CPTS division that is based out of GCMH is part of one large agency with many different sub-stations, it is difficult to ascertain exactly how many responses the CGMH division of CPTS responded to, other than to determine the number of EMS calls that originated within Giles County. OEMS believes that this was the best way of gathering call volume data. Out of the total number of EMS call for 2005, 26% of those calls were ALS, and 29% of the calls in 2006 were ALS.

In terms of Trauma versus Medical, all EMS responses with an incident disposition of either “transported” or “treated/transferred care” were considered in the evaluation. Additionally, “trauma” was determined to be any PPCR report with a clinical assessment equal to “traumatic injury”, and call type not equal to “medical emergency”. For “medical”, PPCR reports had a clinical assessment not including “traumatic injury”, and a call type of “medical emergency”. Based on those criteria, 6% of the calls in Giles County in 2005, and 11% of the calls in 2006 were classified as “Trauma”.

Based on PPCR data, CGMH received 83% and 82% of patients transported by Giles County agencies in 2005 and 2006, respectively. Of note is the fact that Newport VRS only transports between 15-19% of its patients to CGMH, with the majority of their patients going to HCA Montgomery Regional Hospital. This figure seems relatively consistent compared to other agencies in counties served by CAH hospitals whose primary response areas are on the edge of that county, and are closer to other hospitals.

In terms of response data, agencies in Giles County have varied response times, and transport times from scenes to hospitals. Based on data from 2005, agencies average 9.6 minutes from the time the call is received to the time a unit is enroute. The time from unit enroute to arrival at scene averages 7 minutes and time from the scene to the hospital averages to be about 20 minutes.

For transfers from CGMH to other hospitals, a variety of factors come into play each of which affect the amount of time it takes to transfer a patient to another facility. Transfers are typically dependent on patient diagnosis, available beds at receiving hospitals, and patient preference. 139 patients were transferred from CGMH to other facilities in reviewing data submitted by CGMH for the time period from January 1 to June 30, 2007. 78% of all transfers were for services that were not available at CGMH, the highest percentage of those being cardiology services (32%) and Orthopedics (13%). The majority (58%) of transfers went to Carilion Roanoke Memorial Hospital (hereinafter mentioned as “CRMH”), in Roanoke, VA. CRMH is 65 miles from CGMH, and is typically about a 1 hour and 15 minute drive. Additionally, 25% of patients transferred went to Carilion New River Valley Medical Center (hereinafter mentioned as “CNRVMC”), located in Radford, VA. CNRVMC is 33 miles from CGMH and about 40 minutes drive time. Another 15% of transferred patients went to HCA Montgomery Regional Hospital in Christiansburg, which is 27 miles from CGMH and about 35 minutes drive time. The overwhelming majority of patient

transfers out of CGMH are done by CPTS. On rare occasions, Giles Lifesaving and Rescue or Newport VRS have done transfers, but are not compensated for doing so.

As was stated previously, all agencies in Giles County have established PI programs. These programs involve regular reviews of PPCR reports completed by the respective agency, and include OMD participation. Additionally, in reviewing PPCR submission compliance information for 12 quarters for calendar years 2004-2006, all agencies were compliant with their submissions for all but one quarter, with one agency missing a submission in 2004.

Mass Casualty Preparedness

Due to the geographic location of Giles County, both county government, and CGMH participate in activities of the NSPA, which was organized to facilitate a coordinated regional healthcare response in the event of mass casualty events. Additionally, all are participants in many of the emergency and disaster preparedness training programs that are offered by NSPA.

In the event of a large scale emergency, CGMH has the surge capacity for up to 20 additional beds, in addition to the five ED, and 25 regular beds currently in place at the hospital. Future expansion plans for the ED at CGMH include a capacity of eight beds, and three specialty evaluation rooms.

System Partnerships

All of the EMS Agencies within Giles County have mutual aid agreements in place, both with each other, and with agencies in counties that adjoin Giles, including those counties that are in the state of West Virginia. There is also an agreement with Celanese Corporation EMS, for any incident within an eight mile radius of the Celanese plant. There is also a strong working relationship that exists between the county EMS agencies, and the county administration, the county sheriff's office, and police departments that serve the localities of Pearisburg, Glen Lyn, Narrows, Pembroke, and Rich Creek.

Based on interviews conducted and review of survey information, it does seem to be that EMS has a pretty clear understanding of their role as it pertains to the CAH. The mere fact that the CAH facility has its own EMS service lends to that understanding.

Hospital Capabilities

CGMH has one physician on staff in the ED 24 hours a day, 7 days a week. An additional physician staffs the ED from 2pm to 10pm on Saturday, Sunday, and Monday each week. Two nurses are on staff 24 hours a day, with a third nurse on staff from 11am to 11pm daily. CGMH does not employ EMS providers to staff the ED; however there are occasions where employees from CPTS may assist in the ED if needed, especially during overnight hours.

CGMH has had a volume of patients in the ED ranging between roughly 9,400 and 11,900 patients. As of July 2007, they had already seen over 9,300 patients. CGMH averages about 1,000 per month. The majority of patients CGMH receives is ranges from 60 to 80 years of age. Nearly 40% of the patients that CGMH receives are actually from Monroe County, West Virginia, which is in the CGMH catchment area.

CGMH does not track information about the number of hospital users that “walk in” to the ED versus arrival via EMS transport or specific agency, nor do they track those patients that arrive via EMS for specific information, such as arrival by ALS versus BLS, or their disposition.

As mentioned previously in this report, CGMH totaled 139 transfers from their facility from January to July of 2007, roughly 23 per day. The majority of patients are transported because they are in need of services that are not offered at CGMH. The table below outlines the types of transfers based on the service needed by the patient being transferred, and the percentages of transports it represents.

Table 3 – Types of Transfers out of Carilion Giles Memorial Hospital – January – July 2007

Type of Transfer	Percentage of Transports (Based on total of 139)
Cardiology	31.6%
Orthopedics	13.2%
Psychiatry	10.9%
No ICU bed available at CGMH	9.8%
Doctor Request	8%
Trauma	5.2%
Renal	5.2%
Family Request	2.3%
Other (includes OB/Gyn)	33.9%

Source: WVEMS Report on Virginia CAH Project

As was also mentioned previously, 58% of all patients transferred out of CGMH went to Carilion Roanoke Memorial Hospital. In addition, another 25% went to Carilion New River Valley Medical Center in Radford, and HCA Montgomery Regional Hospital in Christiansburg. CGMH does not track information related to the equipment that is used on transports out of CGMH, or the number and percentage of transports that have CGMH personnel (nurses and/or respiratory therapists) that may accompany EMS crews on transports to partner facilities.

Network agreements exist, and are honored with partner facilities in the Carilion Health System. Transfer agreements exist with other hospitals in the area, which have been listed previously.

V. Key Findings and Recommendations

For each area evaluated in the information in Section IV of this report, key findings, as well as some recommendations for future feasibilities will be made.

Staffing/Placement of EMS Units:

Key Findings:

In Giles County, there are 72 certified EMTs for the population size of 16,167 people, or 1 EMT for every 224 people in the county. This is comparable to the numbers total number of EMTs versus people in the Commonwealth of 1 to 204.

The number of volunteer versus career providers also seems to be comparable to most rural counties in Virginia, with a majority of providers being affiliated with volunteer agencies. None of the agencies that participated in interviews mentioned the recruitment or retention of EMS providers as issues that their respective agencies are currently facing. The age, gender, and race of EMS providers in Giles seems to be relatively consistent with the demographic information of the county as a whole.

In terms of hours of EMS coverage in the county, as response times, the mere fact that CPTS provides dedicated 24/7 staffing certainly aids in keeping response times down. Of note is the strategic placement of units in Pembroke and Glen Lyn by Giles Lifesaving and Rescue, in order to reduce their response times, which was reported to have improved the agency response times. However, one of the struggles of the evaluation was determining how many emergencies CPTS responded to in the other agencies primary response territories, as well as how many emergencies they responded to while another vehicle was already on another emergency. Based on the fact that the Giles division of CPTS is only one division of a larger agency made up of divisions in several territories, it is impossible to differentiate between them.

Recruitment and retention initiatives are varied, from the free/discounted training opportunities to the benefit packages that CPTS personnel receive as employees of Carilion Health System. Again, it is worth mentioning that CPTS reported to having little turnover, and none of the other agencies mentioning any issues related to recruitment and/or retention.

Recommendations:

OEMS recommends that volunteer agencies in Giles County utilize the “Keeping the Best” series of recruitment and retention workbooks offered to all EMS agencies by OEMS, in order to maintain, and increase their agency rosters. While it may be that they may not be facing urgent staffing issues, it is also appropriate to continue to strive to maintain and increase current provider numbers. Agencies should continue to provide training at free or discounted prices.

EMS Training Initiatives

Key findings:

It seems that educational opportunities for providers in Giles are relatively robust, with educational opportunities for individuals who wish to become certified as EMTs and advanced level EMTs, as well as continuing education hours, and specialty courses, such as ITLS and PEPP.

WVEMS is doing an acceptable job of making those courses available to those providers within that planning district. It is also worth noting that the CAH itself offers several training programs and clinical opportunities to EMS providers, and especially those not affiliated with CPTS.

The one item of note is the low numbers of providers who are enrolling, and completing these courses, but at the same time, the numbers of advanced level providers in the county are relatively low as well.

Recommendations:

EMS System stakeholders, including CGMH, WVEMS, and the individual agencies themselves, should continue to work collaboratively to ensure that opportunities for providers to obtain or maintain EMS certification.

Communications

Key Findings:

Like many other rural areas, Giles struggles with the ability to have reliable radio and cellular coverage over 100% of the county.

It is commendable that upgrades in radio and cellular phone communications have been, and are planning to be done throughout the county, and that a collaborative approach has been taken to make funds and equipment available to provide communication upgrades, through NSPA and the Department of Homeland Security.

It is also worth making note of the fact that high numbers of agencies provide patient report information to the CAH, and are even able to send cardiac monitoring information to the CAH prior to arrival.

Recommendations:

Giles County governmental administration should continue to work collaboratively with internal and external entities and resources to upgrade communications abilities in Giles County. Additionally, CGMH should work collaboratively with transport agencies to promote the use of transmission of 12 Lead EKG information from the field

Fiscal Support

Key findings:

During the evaluation process, none of the agencies that participated stated that finances were an issue, though both agencies that bill for service stated that they have collections rates of less than 50%.

Additionally, it is a significant concern that the Newport VRS has not applied for any type of RSAF grant funding since 2005, and that Giles Lifesaving and Rescue had not applied between 1997 and 2004. However, 4 EMS vehicles, and various equipment, including training equipment, have been purchased through RSAF funds.

Recommendations:

Eligible agencies in Giles County should be applying for RSAF grant funding on a consistent basis, in order to obtain updated vehicles and equipment.

Additionally, agencies that are billing for service should strive to improve their collection rates for additional revenue. OEMS does have guidance documents to assist those agencies who bill for service, or wish to bill for service, which may be helpful to these agencies.

Medical Direction

Key findings:

The agencies of Giles are fortunate to have active involvement by their respective OMDs. The fact that two of the three OMDs who are affiliated with agencies in Giles are also affiliated with the Carilion Health System lends to maintain strong positive working relationships between the CAH and the EMS system in the county.

All three have had a major effect on system and protocol development, and in provision of online and offline medical direction.

Finally, the OMD's all seem to actively participate in performance improvement processes in place by their respective agencies.

Recommendation:

The OMDs in Giles continue to maintain the relationships with the EMS agencies that have existed, as well as provide mentoring opportunities as other doctors have interest in the OMD process.

Quality Assurance

Key Findings:

As has been stated previously, the fact that CPTS-Giles is part of one larger agency license made it difficult for reviewers to cull specific data regarding emergencies that CPTS-Giles responded to. That affects all the factors to be taken into consideration under the Quality Assurance evaluation. Aside from that, it seems as though the majority of EMS responses in Giles are medical in nature. Also, it is worth noting that one of the agencies in Giles County (Newport VRS) transports the majority of its patients out of county, due to geography.

Additionally, all agencies have some type of call review/PI program in place, which is essential for productive quality assurance programs. Finally, review of data did bring to light some data submission issues, but it does appear that those issues have been rectified. Finally, it does appear that EMS agencies

In terms of CAH interfacility transports, CGMH seems to be relatively comparable to other CAH facilities and rural hospitals in terms of the number of transfers, and the reasons for those transports. It is obvious and acceptable that CGMH not have the means to provide specialty service for every type of medical condition, otherwise they would have not received CAH designation, but it is a good indication of strong collaboration that the CAH has agreements in place for transports of patients to other facilities. Reviewers understand the issues that may arise in those processes, which may delay transport.

Recommendations:

It is recommended that EMS agencies continue to strive to improve response times. The efforts by Giles Lifesaving and Rescue to strategically place units in substations certainly assist in the improvement. In terms of transports from the CAH to other facilities, it is recommended that CGMH continues to work collaboratively with its partner facilities to maintain network agreements, and provide an effective interfacility transport system.

Mass Casualty Preparedness/System Partnerships

Key Findings:

The NSPA is providing the organizational structure and planning to address mass casualty/surge capacity events. CGMH has preparedness policies in place to address such events. Also, several training opportunities are offered to CAH and EMS staff for Mass Casualty events.

It seems that network agreements between the CAH and partner facilities, as well as mutual aid agreements between EMS agencies in Giles County, and areas outside of Giles, are in place, and being honored.

Recommendation:

NSPA should continue to set the pace in terms of Mass Casualty Preparedness, which participation and cooperation from the CAH. Additionally, EMS agencies in Giles should review, revise, and update mutual aid agreements on an annual basis.

Hospital Capabilities**Key Findings**

One of the items that stood out in evaluating the capabilities of the CAH is the information that the CAH does not track. It would be very helpful, for this evaluation, or for future similar evaluations, that CGMH create a database to determine walk in versus transport by EMS agency, as well as categorize by specific EMS agency, chief complaint, and differential diagnosis. It seems that staffing levels are appropriate for patient volume. Additionally, as has been stated previously, transport numbers and patterns seem consistent with other CAH facilities.

Recommendations:

CGMH should strive to collect additional patient data information, if for no other reason than to enhance quality of care. The ED sees roughly 32 patients a day, and that data should be able to be entered into a database on a daily basis. This will lend to better patient information between the CAH and EMS agencies.

Conclusion:

The Virginia OEMS believes that between continuing efforts to improve the EMS System in Giles, coupled with the recommendations that have been made in this report, that the EMS system in Giles County will be better than ever as it moves into the future. The Virginia OEMS remains committed to provide whatever materials are necessary to meet that goal.

Study Participants:

Carilion Giles Memorial Hospital:

James Tyler
Veronica Stump
Larry Lafon

Giles County Administration:

Chris McKlarney
Bryan Alitzer
Melissa Parsons

Giles County EMS Agencies:

Chris Caldwell

Attachments:

Virginia Critical Access Hospitals Project - *EMS and Local Government Components*

Western Virginia EMS Council – August 2007.

Survey Questions completed by study participants

**CAH Survey Questions- Giles County
Carilion Giles Memorial Hospital
July 23, 2007**

Present: *Larry Lafon, Coordinator- Carilion Giles Memorial Hospital Patient Transport Services*
Rob Logan, Executive Director- Western Virginia EMS Council
Veronica Stump, Director of Nursing- Carilion Giles Memorial Hospital Emergency Department
James Tyler, Vice President, Hospital Administrator- Carilion Giles Memorial Hospital
Pat Young, Lead Analyst- Western Virginia EMS Council

Carilion Giles Memorial Hospital Emergency Department and Census data provided for fiscal year 2006-2007 (October to September)

1. What changes have occurred in your Emergency Department due to your hospital's conversion to a CAH? *Carilion Giles Memorial Hospital (CGMH) has had CAH designation for the past five years. Network agreements with supporting hospitals have been established. No recent changes have occurred in the ED.*
 - a. What specific changes in your policies and procedures? *The CAH is JCAHO (Joint Commission) and CAP (College of American Pathologists) accredited. JCAHO inspection in February 2006 revealed no deficiencies. CAP accreditation is for the laboratory and measures turn-around times for stat laboratory tests ordered by the ED.*
 - b. If yes, how have these changes affected the CAH's relationship with EMS agencies? *Not applicable. Good working relationship with EMS agencies.*
2. How do you evaluate your role as a CAH? *JCAHO and CAP surveys. CGMH has a strong medical staff and a Director of Performance Improvement (David Hall) who ensures that the hospital adheres to survey requirements. Mr. Tyler stated that there is a lack of benchmark data for CAH's especially for small hospitals like CGMH which makes it difficult for them to compare their services/progress as a CAH with similar facilities. Core measures at CGMH may be skewed because of low numbers as compared to larger facilities.*
 - a. What Quality Assurance/Performance Improvement procedures do you perform? *See above. No specific CAH measures.*
3. Volume of patients arriving in ED. *The number of ED users at CGMH has been increasing by 3 to 4% each year. Total ED visits for years 2000-2006 are as follows:*
 - *2000: 9870 visits*
 - *2001: 10,039 visits*
 - *2002: 9908 visits*
 - *2003: 9424 visits*
 - *2004: 10,269 visits*

- **2005: 11,113 visits**
- **2006: 11,913 visits**
- **As of July 23, 2007: 9,321 visits (They currently average 1000 ED visits/month.)**

Most users are elderly ranging in age from 60 to 80 years (average age is 72 to 78 years old).

- a. Numbers arriving via specific EMS agency. **There is no data currently available demonstrating the number of users that walk-in to the ED versus transported in.**
 - b. ALS versus BLS: **385 ALS vs. 357 BLS [for Carilion Patient Transport (CPTS) at CGMH October 2006- June 2007].**
 - c. Types of calls: **Total EMS calls for CPTS during this period was 1,115.**
 - d. Patient Disposition: **Data not available**
4. How many beds do you have in your Emergency Department? **Not enough! Currently there are 5 beds. The plans for the new ED will have 8 beds, a triage room, an ENT room, and a prisoner/psych room.**
5. In the past 12 months has your facility been unable to admit patients from the ED due to lack of available beds? **Yes. "Peak Census Days" data for October 2006 to April 2007 revealed that CGMH was at peak census one day in December and January and two days in October, November, and March.**
- a. If yes, were those patients transferred to another hospital?
 - i. **Transfer is dependent on the patient's diagnosis, available beds at supporting hospitals, and patient's preference. For example, there are no orthopedic surgeons/services at CGMH so many patients requiring these services are transferred to Montgomery Regional Hospital in Christiansburg which has the nearest orthopedic staff. When CPTS responds to a call for an isolated fracture, the EMS providers will advise the patient that CGMH does not have orthopedic services and will give the patient the option to be directly transported to Montgomery Regional Hospital or Carilion New River Valley Medical Center in Radford. Some patients prefer to be transported to CGMH despite the lack of orthopedic services on-site.**
 - ii. **Transfers from CGMH to receiving hospital January- June 2007 for all reasons including peak census days:**
 1. **Carilion New River Valley Medical Center: 35 (25.2%)**
 2. **Carilion Roanoke Memorial Hospital: 81 (58.3%)**
 3. **Carilion Roanoke Community Hospital: 7 (5%)**
 4. **Montgomery Regional Hospital: 21 (15.1%)**
 5. **Princeton Community Hospital: 8 (5.8%)**
 6. **Other (Pulaski, UVA, Lewis Gale, VA Hosp-Salem, out of state): 22 (15.8%)**

6. Number and qualifications of staff in your facility's ED (i.e. doctors, nurses, technicians, etc.) ***A physician is on staff 24 hours/day, 7 days/week. An additional physician is on staff from 2 p.m. to 10 p.m. on Saturday, Sunday, and Monday. Two nurses are on staff 24 hours/day, 7 days/week with a third nurse on staff from 11 a.m. to 11 p.m. each day.***
 - a. Do you employ EMS personnel in your ED? ***No***
 - i. If so, how many?
 - ii. What types of jobs do they perform? ***Although there are no EMT's on staff, the EMT's from CPTS and those from surrounding EMS volunteer agencies, will help out in the ED if needed especially on the night shift. EMT's offer care based on their certifications/qualifications. "We are all family here!" (James Tyler)***

7. What supporting hospital do you have a Network Agreement with? ***Network Agreements with Carilion New River Valley Medical Center and Carilion Roanoke Memorial Hospital (tertiary care facility and trauma center).***
 - a. What is your relationship with the supporting hospital? ***Network agreement. All three hospitals belong to Carilion Health Systems.***
 - b. What is the distance in miles and time to this hospital?
 - i. ***Carilion New River Valley Medical Center (CNRVMC) is 33 miles and 40 minutes.***
 - ii. ***Carilion Roanoke Memorial Hospital (CRMH) is 65 miles and 1 hour, 15 minutes.***
 - iii. ***According to Mr. Tyler there are occasionally pragmatic issues that must be addressed with ED to ED transfers. A physician/specialist must be willing to accept an admission/new patient at the receiving hospital or the patient may not be admitted. This can be an obstacle at CNRVMC for patients who have psychiatric disorders with concurrent medical issues or for patients requiring a cardiology admission. Often patients are diverted to CRMH where they will generally accept new patient admissions unless their care is out of their scope of services or they have no beds available***

8. What other hospitals do you transfer patients to? ***Carilion Roanoke Community Hospital (CRCH); Montgomery Regional Hospital (MRH); and Princeton Community Hospital (PCH)***
 - a. What is your relationship with these hospitals? ***Referral sources***
 - b. What is the distance in miles and time to these hospitals?
 - i. ***CRCH: 66 miles; 1hour, 15 minutes***
 - ii. ***MRH: 27 miles; 34 minutes***
 - iii. ***PCH: 29 miles; 37 minutes***

9. How are patients transported to supporting and other hospitals? ***Primarily by Carilion Patient Transport Services (CPTS)***

- a. Do you have a hospital patient transport services? **Yes, CPTS. CPTS has 4 trucks with one dedicated to 911 calls for Giles County. The 911 truck is available 16 hours/day and is the primary 911 response for the county during the day.**
- b. Do you call EMS agencies for transport? **Occasionally Giles Lifesaving and Rescue or Newport Volunteer Rescue Squads will do transfers. Occasionally CGMH will call Lifeline Ambulance Service (Christiansburg) or Guardian Ambulance Service (Wytheville). The ambulance companies have a fee-for-service and can be very expensive.**
 - i. Does your hospital compensate EMS agencies for these transports?
No

10. Patient Demographics for Patient Transfers

- a. Number
 - i. **Transfers from CGMH (total = 139) to receiving hospital January-June 2007 for all reasons including peak census days:**
 1. **Carilion New River Valley Medical Center: 35 (25.2%)**
 2. **Carilion Roanoke Memorial Hospital: 81 (58.3%)**
 3. **Carilion Roanoke Community Hospital: 7 (5%)**
 4. **Montgomery Regional Hospital: 21 (15.1%)**
 5. **Princeton Community Hospital: 8 (5.8%)**
 6. **Other: 22 (15.8%)**
- b. Types
 - i. **Service not offered at CGMH: 136 (78.2%). Services not available at CGMH which require transfers include the following:**
 1. **Cardiology (31.6% of transfers Jan-June 2007)**
 2. **Orthopedics (13.2% of transfers Jan-June 2007)**
 3. **Trauma (5.2% of transfers Jan-June 2007)**
 4. **Renal (5.2% of transfers Jan-June 2007)**
 5. **Psych (10.9% of transfers Jan-June 2007)**
 6. **Other- including pediatrics and OB (33.9% of transfers Jan-June 2007)**
 - ii. **No ICU Bed Available: 17 (9.8%)**
 - iii. **No Beds Available: 6 (3.4%)**
 - iv. **Hospitalist Request: 4 (2.3%)**
 - v. **PMD located at other facility: 7 (4.0%)**
 - vi. **Patient/Family Request: 4 (2.3%)**
- c. Equipment used: **Data not available**
- d. Ground versus air transport
 - i. Does your hospital have a helipad to accommodate air transport? **Yes. Use primarily Carilion Life Guard 11. CGMH has at least one flight/day.**

11. Number of patients transported inside the catchment area, but outside county your facility is located in. **All. Total number of transfers from CGMH for all reasons January- June 2007 were 139.**

Other:

CGMH is one of the busiest CAH's in the Commonwealth. Its success is due in large part to having CPTS in place at the hospital with a dedicated truck for 911 calls. CGMH has a strong working relationship with the County EMS Coordinator, law enforcement officials, volunteer fire and rescue agencies, and the Celanese Corporation. The hospital works with these agencies participating in disaster drills, N-95 mask fitting for the Sheriff's Department and other emergency management programs. They educate their staff and communicate changes in emergency management policies as they occur. CGMH is working hard to be a Champion of Health Care in Giles County.

40% of patients transported to CGMH are from Monroe County, West Virginia which is in Giles County's catchment area. CPTS uses communication towers located in Monroe County which allows them to hear EMS agencies from Giles County to Roanoke.

EMS/CAH Study***Giles County Administrator's Office******July 23, 2007***

***Present: Bryan Altizer, Sheriff- Giles County
Rob Logan, Executive Director- Western Virginia EMS Council (WVEMS)
Chris Mcklarney, Giles County Administrator
Melissa Parsons, 911 Coordinator- Giles County Sheriff's Office
Pat Young, Lead Analyst- WVEMS***

Survey Questions

County Administrator

1. What is your relationship/familiarity with area EMS agencies? ***Giles County provides funds for Emergency Medical Services (EMS) and all volunteer agencies. They assist with grant applications and have a local matching program for equipment purchases by the volunteer agencies (\$25,000 maximum match).***

Giles County subsidizes Carilion Patient Transport Services (CPTS) for 911 responses (business operations expenses only). CPTS is the primary 911 responder and patient transport provider during the day in the County. They have an EMS provider on duty 24 hours, 5 days per week and during the daylight hours on the weekend. One to two of their trucks are designated for 911 calls only.

- a. Do you currently have an EMS coordinator for your county? ***Chris Mcklarney, Giles County Administrator. There is a very strong working relationship with the County Administrator, the Sheriff's Office, the volunteer EMS agencies, Carilion Giles Memorial Hospital and police departments in Pearisburg, Glen Lyn, Narrows, Pembroke, and Rich Creek. The Giles County Board of Supervisors is very supportive of the volunteer EMS agencies. Giles County has great EMS volunteers.***
2. What does the hospital in your area do to communicate its capabilities to the community? ***The County Administrator was on the hospital Board of Directors until four months prior to this interview. He stepped down from the position to avoid conflict of interest issues with the construction of a new facility for Carilion Giles Memorial Hospital. Giles County and the Industrial Development Authority are contributing ~\$3.5 million to the project. They are providing the site for the new facility as well as doing the site preparation and utilities. The current hospital and grounds will be used to house the Giles County Administration offices.***
 - a. Are you aware that the hospital is a critical access hospital? ***Yes***
 - b. Does the hospital contribute financially or otherwise to EMS agencies in the county?

- i. A Carilion representative attends quarterly meetings of the Emergency Services Oversight Committee conducted by the County.*
- ii. Carilion Giles Memorial Hospital opens its facilities for EMS training. They do not provide financial support directly to the volunteer EMS agencies.*
- iii. As part of a Near Southwest Preparedness Alliance emergency preparedness program, the hospital fitted officers in the Giles County Sheriff's Department with N-95 respirators in the event of an airborne pathogens outbreak.*

Law Enforcement

1. How often does law enforcement personnel have to transport patients to the hospital? ***Rarely. Inmates are transported to the hospital by staff of the regional jail.***
 - a. What is the volume for the past 12 months?
2. Does your agency utilize a centralized dispatch system? ***Yes. Giles County has been E-911 countywide since 1992. The dispatch office is part of the Giles County Sheriff's office. The dispatch office sends tones using a radio system. (One EMS agency uses pagers.) Radio coverage in the county is improving. Homeland Security funds are being used to upgrade communications by expanding to high frequency VHF band width which can link to low-band frequencies used in surrounding counties. The fire and rescue agencies in the County are on the same frequency. U.S. Cellular towers are being installed in Giles County. There is limited cell phone coverage in Giles County and is available primarily along the Route 460 and 100 corridors however Carilion Patient Transport uses cell phones to communicate with Carilion Giles Memorial Hospital. Upgrades in their cell phone coverage were provided by the Near Southwest Preparedness Alliance via Nextel.***

Other Information

Sheriff Altizer, Ms. Parsons and Mr. McKlarney all agreed that there is excellent coordination between the fire, rescue, and law enforcement services (and staff) in Giles County especially considering the rural nature of the communities they serve. There are eight fire departments, three rescue agencies, five police departments (Glen Lyn, Narrows, Pearisburg, Pembroke, Richcreek) and the Sheriff's Department.

Most of the Giles County firefighters are cross-training to become Emergency Medical Technicians which will greatly enhance the EMS response.

EMS Survey Questions – Giles Rescue

Does your county utilize centralized dispatch? Yes/No (Circle one) YES

a. What agency dispatches your calls? SHERIFF'S OFFICE

If you are an EMS transport agency, which Emergency Department(s) does your agency transport patients to? CARILION GILES MEMORIAL HOSPITAL

b. How many patients have you transported within the last 12 months?
APPROXIMATELY 1000

c. How many patients were ALS vs. BLS? 35% WERE ALS AND 65% BLS

d. What types of calls have you received in the past twelve months? VEHICLE ACCIDENTS, FALLS, GENERAL ILLNESS, FIRE STAND-BYS

e. What was the patient disposition?

Has your agency provided patient reports to the Emergency Department within the past twelve months? Yes/No (Circle one) YES

f. If yes, how often?

- i. ___ 0-25% of the time
- ii. ___ 26-50% of the time
- iii. ___ 51-75% of the time
- iv. X 76-100% of the time

g. What form of communication do you use?

- i. Radio
- ii. Cell phone CELLPHONE AND RADIO
- iii. Other?

h. Do you face any challenges communicating with the Emergency Department? Yes/No (Circle one) YES

i. If yes, what are these challenges? LOCATIONS WERE CELLPHONES AND RADIOS HAVE VERY POOR RECEPTION SUCH AS VERY FAR END OF COUNTY AND IN VERY DEEP VALLEYS

Does your agency have a fee-for-service arrangement for patient transports? Yes/No (Circle one) YES WE BILL THE PTS INSURANCE BUT VERY SELDOM DO WE BILL AND INDIVIDUAL JUST TO COMPENSATE FOR FUEL AND SUPPLIES AND INSURANCE ON VEHICLES AND MEMBERS

i. If yes, what has the collection rate been over the past 12 months?

- i. 0-25% of the time
- ii. 26-50% of the time
- iii. 51-75% of the time
- iv. 76-100% of the time

Do you have telemetry or other telemedicine equipment on your vehicle? Yes/No (Circle one) NO

j. If yes, what equipment do you have?

What hospitals do you transport patients to? CARILLION GILES MEMORIAL
What is your definition of a Critical Access Hospital? A HOSPITAL THAT CAN STABILIZE A CRITICAL PT FOR FUTURE TRANSPORT TO A TRAUMA OR SPECIALITY HOSPITAL.

Are there any Critical Access Hospitals in your service area? Yes/No (Circle one)

l. If yes, where are they? GILES MEMORIAL HOSPITAL

Have you been told by the critical access hospital within the past 12 months that you must redirect your patient transport because the hospital is at capacity? Yes/No (Circle one) YES

m. If so, how many occurrences? 2 OR 3 TIMES

n. How was this communicated to your agency? BY CALLING OUR SQUAD HALL OR DISPATCH BEING CONTACTED AND THE INFORMATION RADIOED TO OUR UNITS

Within the past 12 months, has the critical access hospital called your agency to transport patients to a supporting hospital or facility outside the county? YES SOME TIMES WE DO VERY LITTLE TRANSPORTS DUE TO CARILLOIN HAS A TRANSPORT SERVICE OF THEIR OWN

o. Where do you transport these patients? JUST DEPENDS ON THE CASE MAYBE NEWRIVER VALLLEY MEDICAL CENTER OR MONTGOMERY REGIONAL HOSPITAL

- i. What is the length of time these transports require? ABOUT 35 MINUTES TO AN HOUR
- ii. Do you communicate with the supporting hospital/facility while en route? YES
- iii. Do you use telemetry or other telemedicine equipment during these transports? NO

p. Do you receive compensation from the hospital for these transports?

q. How many of these transports are scheduled versus emergency or non-emergency transports? WE ARE NOT SET-UP FOR A URENT EMERGENCY TRANSPORT SO MOST OF OUR TRANSPORTS ARE NON- EMERGENCY

Does your agency participate in any quality assurance/performance improvement programs with the critical access hospital? Yes/No (Circle one)

r. If yes, what types of programs?

What is the total number of personnel in your agency? ABOUT 45 MEMBERS

s. What is the age FROM 16 TO 70; race _WHITE,BLACK HISPANIC__; gender _35 MALES AND 18 FEMALES_____ of these personnel?

t. How many are volunteer personnel? ALL MEMBERS ARE VOLUNTEER

u. How many are career personnel? 0

What is the number of hours of dedicated coverage (ie. station and/or vehicle are staffed) your agency provides each day? WE COVER 7/24

v. What are the total hours of on-call coverage provided each day?7/24

w. What percent of each day does your county have EMS coverage?7/24

Does your agency participate in any recruitment or retention initiatives? Yes/No (Circle one) YES

x. If yes, what types? WE OFFER FREE TRAINING AND WE PAY FOR THERE CLASSES SO IT IS JUST A MATTER OF GIVING THEIR TIME TO GO THROUGH THE CLASSES WE ALSO OFFER A OBSERVER PROGRAM SO THEY CAN RIDE ALONG AFTER THEY FEEL OUT AN APPLICATION TO SEE IF THIS IS THE ORGANIZATION OR SERVICE THEY WISH TO BE IN.

What is the average response time for your agency in the past twelve months? ABOUT 4 TO 9 MINUTES

Is your agency utilizing strategic placement of units based on call volume and/or location? Yes/No (Circle one) YES

y. If yes, have response times improved? YES THEY HAVE IMPROVED OVER THE LAST 4 MONTHS

Is ALS or BLS training or continuing education available in your area? Yes/No (Circle one) YES AND NO

z. If yes, has the critical access hospital in your area provided any training or continuing education to your agency's providers? YES THERE IS TRAINING AVAILABLE IN SURROUNDING AREAS FOR ALS AND THERE IS SOME BLS IN OUR AREA BUT IT HARD FOR A VOLUNTEER TO TRAVEL ALONG WAY AFTER WORK TO PARTICIAPTE IN THESE PROGRAMS BECAUSE SOME ARE SO FAR AND TIME IS VERY IMPORTANT TO US ALL SO IT IS HARD TO GET PEOPLE IN A CLASS TO SUIT THEIR TIME SCHEDULE

Does your agency have formal cooperative agreements with other EMS agencies?
Yes/No (Circle one) YES

aa. If yes, are they honored? THROUGH REPECT FOR EACH OTHER FOR THE FIRST THING BECAUSE WE ARE ALL OUT THERE TO DO THE SAME JOB, TAKE CARE OF THE SICK AND IMJURIED,BUT WE ALSO HAVE MUTAL-AID AGREEMENTS WITH EACH OTHER

EMS Survey Questions

Giles County**Carilion Patient Transport Services (CPTS)****Larry Lafon- Coordinator****July 23, 2007**

CPTS data for October 2006- June 2007 was presented as well as the CPTS 2005-2006 annual report.

1. Does your county utilize centralized dispatch? **Yes**
 - a. What agency dispatches your calls? **Giles County Sheriff's department- E-911**

2. If you are an EMS transport agency, which Emergency Department(s) does your agency transport patients to? **The following CPTS data is for October 2006 to June 2007.**
 - a. How many patients have you transported within the last 12 months?
 - i. **Carilion Giles Memorial Hospital: 709**
 - ii. **Montgomery Regional Hospital: 95**
 - iii. **Carilion New River Valley Medical Center: 73**
 - iv. **Carilion Roanoke Community Hospital: 14**
 - v. **Carilion Roanoke Memorial Hospital: 183**
 - vi. **Princeton Community Hospital: 19**
 - vii. **Pulaski Community Hospital: 6**
 - viii. **University of Virginia, Charlottesville: 5**
 - ix. **Veterans Administration Medical Center, Salem, VA: 2**
 - x. **Lewis Gale Medical Center: 14**
 - xi. **Other: 1**
 - xii. **Out of State: 11**
 - b. How many patients were ALS vs. BLS? **385 ALS vs. 357 BLS**
 - c. What types of calls have you received in the past twelve months?
 - i. **Medical Emergency: 742**
 - ii. **Mutual Aid: 48**
 - iii. **Cancelled: 90**
 - iv. **Refusal: 131**
 - v. **Stand-by: 7**
 - vi. **Public Service: 29**
 - vii. **ALS Intercept: 68**
 - d. What was the patient disposition? **Data not available**
 - e. **Of the 1115 total calls, CPTS served 1,110 adults and 16 children. The majority of the adults were 40 years of age and older.**

3. Has your agency provided patient reports to the Emergency Department within the past twelve months? **Yes**
 - a. If yes, how often?
 - i. **_____ 0-25% of the time**

- ii. 26-50% of the time
 - iii. 51-75% of the time
 - iv. **76-100% of the time. CPTS must leave a copy of each report in the Emergency Department.**
 - b. What form of communication do you use?
 - i. **Radio**
 - ii. **Cell phone**
 - iii. Other?
 - c. Do you face any challenges communicating with the Emergency Department?
Yes
 - i. If yes, what are these challenges? **The rural, mountainous terrain of Giles County has dead pockets where radio/cell phone communication does not function. This is especially true in the Wolf Creek area and along portions of Route 100.**
4. Does your agency have a fee-for-service arrangement for patient transports? **Yes. Unsure of the collection rate. This data is available through Carilion Health Systems.**
 - a. If yes, what has the collection rate been over the past 12 months?
 - i. 0-25% of the time
 - ii. **(38%) 26-50% of the time**
 - iii. 51-75% of the time
 - iv. 76-100% of the time
5. Do you have telemetry or other telemedicine equipment on your vehicle? **No. The trucks have heart monitors but they don't transmit.**
 - a. If yes, what equipment do you have?
6. What hospitals do you transport patients to? **See response to Question 2a.**
7. What is your definition of a Critical Access Hospital?
 - a. Are there any Critical Access Hospitals in your service area? **Yes**
 - b. If yes, where are they? **Carilion Giles Memorial Hospital (CGMH)**
8. Have you been told by the critical access hospital within the past 12 months that you must redirect your patient transport because the hospital is at capacity? **No. CGMH won't divert patients even if the Emergency Department and/or the hospital is at capacity. The ED is always operational and will stabilize a patient before transferring to a supporting hospital.**
 - a. If so, how many occurrences?
 - b. How was this communicated to your agency?
9. Within the past 12 months, has the critical access hospital called your agency to transport patients to a supporting hospital or facility outside the county? **Yes**
 - a. Where do you transport these patients?

- i. **Transfers from CGMH to receiving hospital January- June 2007 for all reasons including peak census days:**
 1. **Carilion New River Valley Medical Center (CNRVMC): 35 (25.2%)**
 2. **Carilion Roanoke Memorial Hospital (CRMH): 81 (58.3%)**
 3. **Carilion Roanoke Community Hospital (CRCH): 7 (5%)**
 4. **Montgomery Regional Hospital (MRH): 21 (15.1%)**
 5. **Princeton Community Hospital (PCH): 8 (5.8%)**
 6. **Other (Pulaski, UVA, Lewis Gale, VA Hosp-Salem, out of state): 22 (15.8%)**
 - ii. What is the length of time these transports require?
 1. **Carilion New River Valley Medical Center (CNRVMC) is 33 miles and 40 minutes.**
 2. **Carilion Roanoke Memorial Hospital (CRMH) is 65 miles and 1 hour, 15 minutes.**
 3. **CRCH: 66 miles; 1hour, 15 minutes**
 4. **MRH: 27 miles; 34 minutes**
 5. **PCH: 29 miles; 37 minutes**
 - iii. Do you communicate with the supporting hospital/facility while en route? **Yes**
 - iv. Do you use telemetry or other telemedicine equipment during these transports? **No**
 - b. Do you receive compensation from the hospital for these transports? **CPTS is part of Carilion Health Systems.**
 - c. How many of these transports are scheduled versus emergency or non-emergency transports? **563 from October 2006 to July 31, 2007.**
10. Does your agency participate in any quality assurance/performance improvement programs with the critical access hospital? **Yes**
- a. If yes, what types of programs? **Monthly quality assurance meetings. Review transport standards and call types.**
11. What is the total number of personnel in your agency? **25**
- a. What is the age **20-62 years**; race **Caucasian**; gender **24 males, 1 female** of these personnel?
 - b. How many are volunteer personnel? **Approximately 50% of the staff volunteer with a fire and/or rescue agency when not working for CPTS.**
 - c. How many are career personnel? **All**
12. What is the number of hours of dedicated coverage (ie. station and/or vehicle are staffed) your agency provides each day? **24 hours/day, 7 days/week**
- a. What are the total hours of on-call coverage provided each day? **Discontinued on-call 6 months ago.**
 - b. What percent of each day does your county have EMS coverage? **100%**

13. Does your agency participate in any recruitment or retention initiatives? **Yes although there is not a lot of turn-over with CPTS.**
 - a. If yes, what types? **Carilion recruitment standards**

14. What is the average response time for your agency in the past twelve months? **One to two minutes. CPTS has four trucks total. One is a dedicated 911 truck and has a response time of one minute. If the 911 truck is out on a call, the call rolls over to other CPTS trucks (3). Before these trucks can respond to a call they have to coordinate with the Carilion dispatch office in Roanoke to ensure there are no scheduled transports. The response time for these trucks is two to three minutes.**

15. Is your agency utilizing strategic placement of units based on call volume and/or location? **No. CPTS does not have any sub-stations. Volunteer rescue agencies have sub-stations in Glen Lyn and Pembroke.**
 - a. If yes, have response times improved?

16. Is ALS or BLS training or continuing education available in your area? **Yes**
 - a. If yes, has the critical access hospital in your area provided any training or continuing education to your agency's providers? **Many of the CPTS staff are trainers and offer programs to the community at large.**

17. Does your agency have formal cooperative agreements with other EMS agencies? **Yes. Mutual aid agreements with Bland County; Monroe County, West Virginia; Union Rescue Squad, West Virginia; Newport Volunteer Rescue Squad; Giles Lifesaving and Rescue; Celanese Corporation (their internal rescue services can provide mutual aid within an eight mile radius of the plant located in Narrows, Va.) CPTS in Giles County does a lot of ALS intercepts from Monroe County, West Virginia, Craig County, and for Newport Volunteer Rescue Squad. CPTS now has one truck located in Blacksburg and serves Giles County and the New River Valley. They have a mutual aid agreement with the Newport Volunteer Rescue Squad. Approximately 90% of patients in the Newport region of Giles County go to Montgomery Regional Hospital in Christiansburg.**
 - a. If yes, are they honored? **Yes**

EMS Survey Questions

Giles County

Newport Volunteer Rescue Squad

Buford Belcher, Captain

July 18, 2007

Does your county utilize centralized dispatch? **Yes**

What agency dispatches your calls? **Giles County Sheriff's department, E-911**

If you are an EMS transport agency, which Emergency Department(s) does your agency transport patients to? **Primarily Montgomery Regional Hospital in Christiansburg and Carilion Giles Memorial Hospital in Pearisburg.**

How many patients have you transported within the last 12 months? **207 calls**

How many patients were ALS vs. BLS? **Data not available**

What types of calls have you received in the past twelve months? **Most calls are medical emergencies**

What was the patient disposition? **This data is reported to the OEMS. Captain Belcher did not have this data available for the interview.**

Has your agency provided patient reports to the Emergency Department within the past twelve months? **Yes**

If yes, how often?

0-25% of the time

26-50% of the time

51-75% of the time

76-100% of the time

What form of communication do you use?

Radio

Cell phone (primary form of communication)

Do you face any challenges communicating with the Emergency Department? **No**

If yes, what are these challenges?

Does your agency have a fee-for-service arrangement for patient transports? **No**

If yes, what has the collection rate been over the past 12 months?

0-25% of the time

26-50% of the time

51-75% of the time

76-100% of the time

Do you have telemetry or other telemedicine equipment on your vehicle? **Yes**

If yes, what equipment do you have? **Two vehicles with heart monitors (1 MRL and 1 Zoll)**

What hospitals do you transport patients to? **Primarily Montgomery Regional Hospital and Carilion Giles Memorial. Occasionally transport to Carilion New River Valley Medical Center.**

What is your definition of a Critical Access Hospital? *unsure*

Are there any Critical Access Hospitals in your service area? *Yes*

If yes, where are they? *Carilion Giles Memorial Hospital*

Have you been told by the critical access hospital within the past 12 months that you must redirect your patient transport because the hospital is at capacity? *No.*

If so, how many occurrences?

How was this communicated to your agency?

Within the past 12 months, has the critical access hospital called your agency to transport patients to a supporting hospital or facility outside the county? *No. Carilion Patient Transport Services does the majority of the transports for the hospital.*

Where do you transport these patients?

What is the length of time these transports require?

Do you communicate with the supporting hospital/facility while en route?

Do you use telemetry or other telemedicine equipment during these transports?

Do you receive compensation from the hospital for these transports?

How many of these transports are scheduled versus emergency or non-emergency transports?

Does your agency participate in any quality assurance/performance improvement programs with the critical access hospital? *No. The agency does participate in quality improvement programs with their OMD, Dr. Wiseman (Montgomery Regional Hospital).*

If yes, what types of programs?

What is the total number of personnel in your agency? *30 (active and inactive)*

What is the age *18-68 years*; race *Caucasian*; gender *Male & Female* of these personnel?

How many are volunteer personnel? *All*

How many are career personnel? *Some of the volunteers work for Carilion Patient Transport. The Squad Chief works for Lifeline ambulance service in Christiansburg.*

What is the number of hours of dedicated coverage (ie. station and/or vehicle are staffed) your agency provides each day? *No stand-by coverage with the agency.*

What are the total hours of on-call coverage provided each day? *On-call coverage provided 24 hours/day, 7 days/week. Pager system used.*

What percent of each day does your county have EMS coverage? *24 hours/day, 7 days/week*

Does your agency participate in any recruitment or retention initiatives? *Yes*

If yes, what types? *Initiatives offered through the Virginia Association of Volunteer Rescue Squads (VAVRS)*

What is the average response time for your agency in the past twelve months? **15 minutes**

Is your agency utilizing strategic placement of units based on call volume and/or location? **No**

If yes, have response times improved?

Is ALS or BLS training or continuing education available in your area? **Yes**

If yes, has the critical access hospital in your area provided any training or continuing education to your agency's providers? **No. The agency has instructors who have received training from the Western Virginia EMS Council.**

Does your agency have formal cooperative agreements with other EMS agencies? **Yes. Mutual aid agreements with Giles County Lifesaving and Rescue; Craig County; Monroe County, West Virginia; Blacksburg; and Celanese Corporation. Newport Volunteer Rescue Squad serves the Simmonsville section of Craig County regularly.**

If yes, are they honored? **Yes.**

EMS Survey Questions – Giles County EMS Training and OMD

- Question 1: Describe the **availability of** EMS educational opportunities (including CE) in Giles County.
- Response 1:
- Yearly offerings of initial Enhanced certification course and ALS Continuing Education hours in Giles County by WVEMS.
 - EMT Basic course offered by EMT Instructor in Giles County each year.
 - Active Continuing Education program offered throughout Giles County by Carilion – Giles Division.
- Question 2: Describe the types of EMS education (including CE) available to EMS personnel in Giles County.
- Response 2: Western Virginia EMS Council offers 48 hours of Advanced Life Support continuing education hours each year to Giles County providers at locations in Giles County and throughout Planning District 4. EMT-Enhanced certification course offered in 2007. Three Giles County providers enrolled and became certified as an Enhanced provider in 2007. Adjunct certification programs such as ITLS, PEPP and AMLS are offered for personnel in Giles County. Giles Memorial Hospital offers providers of Giles County adjunct certification in ACLS, PALS and NRP.
- Question 3: Describe the involvement of Carilion Giles Memorial Hospital in EMS education.
- Response 3: The nursing staff of Carilion-Giles Memorial Hospital provides supervised precepting of student enrolled in WVEMS sponsored initial certification programs. RN's employed by Carilion-Giles Memorial Hospital are actively teaching PALS, ACLS and NRP.
- Question 4: Names of ACTIVE OMD's in the county:
- Response 4: Douglas "Scott" Hayes, MD
Carol Gilbert, MD
Jane Weiseman, MD
- Question 5: Describe the involvement of OMD's in EMS in the county.
- Response 5: Dr. Hayes is a member of the Medical Direction committee for WVEMS. He participated in review and revision of the WVEMS protocols during a major revision in 2006. Dr. Hayes is an active member of Giles Rescue Squad and frequently answers EMS calls for the Giles Community. He provides field care and supervision of EMS providers, giving first hand experience and knowledge to their learning environment. Dr. Weiseman is a member of the Medical Direction committee for WVEMS. She participated in review and revision of the WVEMS protocols during a major revision in 2006.

Question 6: Describe any affiliation with the CAH held by the various OMD's in the county.

Response 6: Dr. Hayes is an Emergency Department Physician for Carilion-Giles Memorial Hospital.
Dr. Weiseman is an Emergency Department Physician for HCA Montgomery Regional Hospital.

Question 7: Describe on-line and off-line participation of the OMD's in the county.

Response 7: Through Dr. Hayes involvement with the EMS community he provides direction and supervision not only through off-line participation but on-line, directing the EMS providers from the Emergency Department. Dr. Hayes responds to many EMS calls in the Giles Community, providing direct supervision of the EMS providers as well as rendering care.

Question 8: Provide a brief assessment of the treatment, transfer and transport protocols in the county and at the CAH

Response 8: Giles County follows WVEMS Regional Protocol. They follow the guidelines established in the WVEMS Regional Trauma Triage Plan.

Question 9: Describe OMD participation in PI/TPI

Response 9: As an active member of the Giles Rescue Squad, Dr. Hayes does monthly PI/TPI review of EMS runs. An active PI/TPI program is in effect for Giles Rescue.
Carilion Patient Transport Services – Giles Division is under the supervision of Dr. Carol Gilbert. Dr. Gilbert has established guidelines and an effective PI/TPI program for all CPTS division.
Newport Rescue Squad is under the medical direction of Dr. Jane Weiseman. She participates in quarterly review of their PI program.