139,214 RESPONSES

537 EMPLOYEES

1,034,070 RESIDENTS IN SERVICE AREA

10 EMERGENCY DEPTS SERVED

107,460 TRANSPORTS

64% PATIENTS WHO RATED OVERALL QUALITY OF CARE AS "EXCELLENT"

OUR PATIENTS. OUR PEOPLE. OUR STEWARDSHIP. OUR PURPOSE.
Fiscal Year 2016 (FY ’16) is a story about unprecedented growth. The demand for Medic’s services grew by 7% this past year, resulting in 139,214 responses and 107,460 patients transported. Medic’s overall patient volume has grown by 42% since 2010, a figure more than twice the growth rate of Mecklenburg County’s population. The majority of this growth was driven by low acuity patients, a subset that increased by 40% while growth among Medic’s high acuity patients remained flat. Partnering with other agencies in the community to better serve low acuity, high frequency patients has become a chief priority in the coming fiscal year, with an aim of driving down unnecessary reliance on the 911 system.

A career in EMS is very demanding and the work can take a toll on those who choose to dedicate themselves to Medic’s mission. It is for this reason that tremendous resources are invested in creating an environment to better prepare, strengthen, and support our employees. Agency leadership remains committed to these efforts; a fact that is well supported by the numerous awards and accreditations bestowed upon Medic this past fiscal year.

I am delighted with all that we have accomplished this past fiscal year and proudly share the following performance achievements.

Josef “Joe” Penner
Medic’s, Executive Director
Medic’s ability to respond to life threatening emergencies anywhere in the county within 10 minutes, 59 seconds is a direct result of system design and preparedness.

The Agency analyzes years of data using complex algorithms to help predict when and where incidents are most likely to occur. The appropriate number of resources are deployed based upon demand projections, and then moved throughout the county to ensure optimal coverage at all times. The result is a paramedic team that is ready to respond to your emergency, whenever and wherever you should need it.

**DISPATCHED EMS CALLS BY FIRST RESPONDER AGENCY**

<table>
<thead>
<tr>
<th>FIRST RESPONDER</th>
<th>VOLUME</th>
<th>FIRST RESPONDER</th>
<th>VOLUME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carolina</td>
<td>208</td>
<td>Matthews</td>
<td>2,506</td>
</tr>
<tr>
<td>Charlotte</td>
<td>90,012*</td>
<td>Mint Hill</td>
<td>2,886</td>
</tr>
<tr>
<td>Cooks</td>
<td>484</td>
<td>North Meck</td>
<td>2,635</td>
</tr>
<tr>
<td>Cornelius</td>
<td>1,806</td>
<td>Pineville</td>
<td>2,109</td>
</tr>
<tr>
<td>Davidson</td>
<td>827</td>
<td>Robinson</td>
<td>730</td>
</tr>
<tr>
<td>Huntersville</td>
<td>1,425</td>
<td>Steele Creek</td>
<td>645</td>
</tr>
<tr>
<td>Idlewild</td>
<td>1,963</td>
<td>West Meck</td>
<td>1,044</td>
</tr>
<tr>
<td>Long Creek</td>
<td>656</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*This figure is based upon the best data available at time of publication.*
### Response and Transport Growth History

<table>
<thead>
<tr>
<th>Year</th>
<th>Sick Person</th>
<th>Traffic Accident</th>
<th>Assault</th>
<th>Unknown Problem</th>
<th>Chest Pain</th>
<th>Psychiatric</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY '06</td>
<td>15%</td>
<td>16%</td>
<td>5%</td>
<td>7%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>FY '11</td>
<td>12%</td>
<td>10%</td>
<td>5%</td>
<td>7%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>FY '16</td>
<td>13%</td>
<td>12%</td>
<td>5%</td>
<td>7%</td>
<td>10%</td>
<td>5%</td>
</tr>
</tbody>
</table>

### Ten Most Frequent Call Types

- Sick Person (13,238): 15%
- Traffic Accident (13,722): 16%
- Chest Pain (9,069): 10%
- Unconscious / Fainting (10,511): 12%
- Breathing Problems (10,729): 12%
- Fall / Back Injury (11,018): 13%
- Traumatic Fall / Back Injury: 12%
- Convulsion / Seizure (4,417): 5%
- Psychiatric (4,303): 5%
- Assault (4,701): 5%
- Unknown Problem (6,440): 7%
- Traumatic Fall / Back Injury: 12%

<table>
<thead>
<tr>
<th>Year</th>
<th>Sick Person</th>
<th>Traffic Accident</th>
<th>Assault</th>
<th>Unknown Problem</th>
<th>Chest Pain</th>
<th>Psychiatric</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY '06</td>
<td>64,600</td>
<td>84,077</td>
<td>57,422</td>
<td>44,600</td>
<td>44,400</td>
<td>44,400</td>
</tr>
<tr>
<td>FY '11</td>
<td>82,827</td>
<td>106,338</td>
<td>82,027</td>
<td>56,840</td>
<td>56,840</td>
<td>56,840</td>
</tr>
<tr>
<td>FY '16</td>
<td>107,460</td>
<td>139,214</td>
<td>107,460</td>
<td>84,980</td>
<td>84,980</td>
<td>84,980</td>
</tr>
</tbody>
</table>
Patient outcomes are not the only measure used to gauge the quality of service provided by the Agency. The overall experience of Medic’s patients is equally important, which is why telephone surveys are conducted on 200 random patients each month through an independent firm.

The feedback provided through this process has resulted in concerted efforts aimed at improving patient satisfaction, including projects targeting pain management and patient comfort relative to the ride of Medic’s ambulances.

64% PATIENTS WHO RATED OVERALL QUALITY OF CARE AS "EXCELLENT"

TARGET: > 65%

GOAL OUTCOME: DID NOT MEET
If you’re going to experience a cardiac emergency (and we hope you never do), there is no place you would rather be than Mecklenburg County, NC.

For patients experiencing a heart attack, it’s all about early diagnosis in the field and rapid transport directly to an area catheterization lab for treatment by a physician. For those in cardiac arrest, it’s about returning the patient’s heart to a beating state so blood and oxygen begin circulating again. If this isn’t achieved in the prehospital setting, a person’s chance of survival is near zero.

The years of research that Medic has invested into improving cardiac outcomes have led to cutting edge protocols and patient outcomes that are among the very best in the entire country.

*ROSC: Return of Spontaneous Circulation per Utstein Template
The people who choose to work at Medic are the cornerstone of this Agency’s success. They are caring, compassionate and committed to fulfilling the Agency’s mission in the community.

Over the years it has become clear that a key contributor to employee satisfaction is enabling people to lead and engage in improvement projects that impact the work we do. This past fiscal year yielded some of the most successful employee-driven projects ever undertaken at Medic, including new carry in equipment bag design, new ambulance chassis selection and new patient care module design.

The work done on these projects not only improved the patient and employee experience, it also helped strengthen the connection to Medic’s purpose for everyone involved.

67
EMPLOYEE SATISFACTION MEAN SCORE
TARGET: > 82
GOAL OUTCOME: DID NOT MEET
Being an EMS professional in an urban environment is a very challenging role. People call upon Medic to help them on their worst days and in some very challenging conditions. Despite these factors, Medic’s employees perform remarkable acts that make real differences in people’s lives, and they do so with very little fanfare.

Medic’s leadership takes every opportunity to recognize and celebrate the incredible work put forward by Agency employees. Whether it be a patient reunion, EMS Week or the Agency’s annual awards event, Medic takes the time to stop and celebrate the people who ensure that someone is there to answer the call each and every time.

The following awards were presented to Agency employees this past year:

**Burnette-Nobles Public Service Award**
Scott Rinehults

**Stars of Life**
Luis Barrera, Larry Billotto and Ray Kirby

**Top Call**
Matt Johnson and Marcus Ray

**Unsung Heroes**
Carol Toms, Jessica West and Donnell Wilson

For more info on our award winning employees, visit medic911.com
Medic’s FY ‘16 operating budget was funded 77% by user fees and 23% by county subsidy. Agency leadership continuously works to drive down costs while improving the overall quality of care provided, delivering the highest level of value possible to the taxpayers of Mecklenburg County.

FISCAL COST COMPARISON

<table>
<thead>
<tr>
<th></th>
<th>CFD</th>
<th>CMPD</th>
<th>MEDIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY ‘16 City/County Funding</td>
<td>$112,626,341</td>
<td>$227,035,628</td>
<td>$12,430,000</td>
</tr>
<tr>
<td>Total Budget (City/County)</td>
<td>$2,119,913,030</td>
<td>$2,119,913,030</td>
<td>1.570,000,000</td>
</tr>
<tr>
<td>Total Budget Percentage</td>
<td>5.31%</td>
<td>10.71%</td>
<td>0.79%</td>
</tr>
<tr>
<td>Population</td>
<td>827,097</td>
<td>827,097</td>
<td>1,034,070</td>
</tr>
<tr>
<td>Per Capita Tax Funding</td>
<td>$136.17</td>
<td>$274.50</td>
<td>$12.02</td>
</tr>
<tr>
<td>Per Capita Cost</td>
<td>$136.17</td>
<td>$274.50</td>
<td>$51.79</td>
</tr>
</tbody>
</table>

FY ‘16 Revenue
- 2015 Encumbrances: $2,562,770
- Assigned Fund Balance: $500,000
- Total Available: $57,165,194
- FY ‘16 Encumbrances: $50,400,679
- Total Spent: $56,112,252
- Excess Revenue vs. Expenditures: $1,052,263
- Excess Revenue vs. Expenditures %: 1.8%
- Unassigned Fund Balance: $2,027,745

FY ‘16 Financial Performance

OUR PATIENTS. OUR PEOPLE. OUR STEWARDSHIP. OUR PURPOSE.
County funding of $115 per transport during this past fiscal year is the lowest subsidy that Medic has ever required to function, and yet performance remained among the best in EMS.
Extensive data analysis has been conducted to better understand why demand for Medic’s services is outpacing population growth. One of the early realizations is that there are people within the community that utilize the EMS system at a significantly higher rate than the average citizen. These high frequency users (HFUs) often have non-acute medical and social needs that can be better managed by existing community resources.

In June of 2015, a workgroup within Medic was charged with finding safe ways to reduce reliance on the 911 system by HFUs. The team concluded that system dependence by HFU’s could be reduced by creating a pathway to connect them with community resources capable of pro-actively addressing their needs. Although still in its infancy, the early returns of this work are promising.

Through collaboration with several partners in the community, this team has driven a 61% decrease in ambulance transports for HFUs enrolled in the program. As the work of this team continues to develop, it helps ensure that critical resources are available to respond to medical emergencies when and where they are needed.
Medic is very data driven, particularly when it comes to the improvement work done at the Agency. Patient satisfaction, employee satisfaction and clinical equipment selection have all been improved this past year thanks to the use of data to guide a path to improvement.

The Agency also uses data to drive improvement in patient care. Medic is renowned for collaborating with area hospitals and other top EMS Agencies across the country to conduct research projects that yield better patient outcomes. Much of this work has also been published in prestigious medical journals, including the following:

**Browne LR, Shah MI, Studnek JR, Ostemayer DG, Reynolds S, Guse C, Brousseau DC, Lerner EB (2016).**

**Ernest EV, Brazelton TB, Carhart ED, Studnek JR, Tritt PL, Philip GA, Burnett AM (2016).**
Prevalence of unique pediatric pathologies encountered by paramedic students across age groups. Prehospital and Disaster Medicine; 31(3)1-6.


**Musey PJ, Studnek JR, Garvey JL (2016).**

For the entire list of papers published in FY ‘16, visit medic911.com
The current incarnation of Medic began 20 years ago, when a unique partnership was formed between Mecklenburg County, Carolinas Healthcare System and Novant Health. Medic’s strong relationship with these partners has cemented the Agency’s role as an integral part of the healthcare system in this community.

Medic continues to flourish thanks in great part to the collaboration and governance provided through this partnership. Improvement projects aimed at patient outcomes are driven by the Quality Management Committee, patient care protocols are shaped by the Medical Control Board, and overall stewardship of the Agency is guided by the Agency Board of Commissioners. Medic’s name may be on the side of the Ambulance, but it is the focused effort of all four organizations that drives the results.
AGENCY BOARD OF COMMISSIONERS
- Mark Foster - MC
- Matthew Hanley, MD - CHS
- Katie Kaney, Chair – CHS
- Dennis Phillips – CHS
- Amy Vance, Vice Chair – NH
- Paula Vincent – NH
- Tom Zweng, MD – NH

MANAGEMENT COMMITTEE
- Katie Kaney – CHS
- Chris Peek – MC
- Amy Vance – NH

FINANCE COMMITTEE
- Bill Lyle – CHS
- Melissa Masterton – NH
- Chris Peek – MC

AGENCY OFFICERS
- Shelly Forward, Finance Officer
- Joe Penner, Executive Director
- Doug Swanson, MD, Medical Director

MEDICAL CONTROL BOARD
Voting Members
- Randolph Cordle, MD – CHS
- Eric Eskioglu, MD – NH
- Sid Fletcher, MD – NH
- Mike Gibbs, MD – CHS
- Carlene Kingston, MD – NH
- Gary Niess, MD, Chair – NH
- Bradley Thomas, MD – CHS
- Brad Watling, MD – CHS

Non-Voting Members
- Tracy Forster, NH
- Jon Hannan, Charlotte Fire Dept.
- David Leath, Mint Hill Volunteer Fire Dept.
- Joe Penner, Executive Director
- Marcus Plescia, MD – MC
- Jason Schwebach – CHS
- Doug Swanson, MD, Medical Director

QUALITY MANAGEMENT COMMITTEE
Voting Members
- Leslie Doyle, RN – CHS
- Mike Gibbs, MD – CHS
- Eric Hawkins, MD – CHS
- Jason Mutch, MD – NH
- Gary Niess, MD – NH
- Suzie Rakyta, RN – NH
- Doug Swanson, MD, Medical Director, Chair

Non-Voting Members
- Joe Penner, Executive Director
- Marcus Plescia, MD – MC
- Kevin Staley, Deputy Director
- Jon Studnek, Deputy Director

LEGEND
Mecklenburg County (MC)
Carolina Healthcare System (CHS)
Novant Health (NH)
Always working to build a better Medic.