



# MEDIC

Mecklenburg EMS Agency

2017 ANNUAL REPORT



## OUR MISSION

*To save a life, hold a hand and be prepared to respond in our community when and where our patients need us.*



As I look back on Fiscal Year 2017 (FY '17) I am struck by the number of transformative changes I see occurring at Medic.

The biggest change in Medic's history becomes real in January of 2018 when the Agency moves to its new Wilkinson Boulevard headquarters. Mecklenburg County has shown strong support to our mission and employees. The multi-year design process was inclusive of employee input with an eye to leverage the new base of operations impact on overall performance, costs, and employee satisfaction. Operational workflow will be more efficient, necessary resources will be more readily available and the framework will now exist to enable Medic to meet whatever needs the future may bring!

Service requests increased to 146,265 in 2017. Since 2010, requests increased 47% percent, or three times the population growth in the same period. Competing for qualified patient care providers is a shared concern for EMS organizations across the country. Medic's multi-year efforts with Charlotte Mecklenburg Schools and Central Piedmont Community College improved recruiting of students for careers in EMS. Beyond enabling local young men and women access to new career opportunities, the programs increase the diversity of applicants and career growth to more advanced EMS roles.

Change in healthcare delivery and patient expectations mean many patients may be able to have their needs met in new ways or new environments, and this has led to the development of a portfolio of projects focused on understanding patient need and reducing ambulance responses and transports. The projects aim at alternative service delivery, while enabling valuable resources to remain available when and where they are needed for an acute medical emergency. These innovative projects show tremendous promise in early testing.

These certainly are exciting times and I am very proud of the hard work put forth to achieve these results. On behalf of the 587 employees who make Medic's mission their own, I proudly share the following highlights from FY '17.

  
**JOSEF (JOE) H. PENNER**  
 Executive Director

## FY 2017 MILESTONES

- Accredited Center of Excellence status achieved through the International Academies of Emergency Dispatch
- Achieved three year re-accreditation through the Commission on Accreditation of Ambulance Services
- AHA Workplace Health Achievement Award - Bronze Level
- Achieved a grant extension for pediatric research from the Health Resources and Services Administration
- Charlotte Business Journal's Healthiest Employer Award Winner
- Cigna's Well Being Honorable Mention
- Increased the Agency's ambulance fleet by 2 vehicles to 72
- Mission: Lifeline Gold Plus Winner
- National Association of Counties Award Winner



## STRATEGIC OBJECTIVES

Medic started FY '17 aimed at making improvements in employee satisfaction, fiscal sustainability, and continuing to develop Medic's culture around diversity and inclusion. These areas of focus were identified following an extensive process involving input from Medic's entire leadership team. This work ultimately yielded a set of projects that would move Medic towards achieving our strategic objectives.

Each of the projects were prioritized and timed to ensure necessary resources would be available to achieve success. Many will span multiple fiscal years, allowing ample time for small scale testing, learning and redirection. Medic's disciplined approach to managing change and improvement will help the Agency evolve and thrive regardless of the challenges posed by the ever-changing healthcare industry.

### STRATEGIC OBJECTIVES

Improve processes and resource management to enable Medic's staff to adapt to demand

Implement recommended projects aimed at improving employee satisfaction

Foster a culture that values diversity and inclusion

Use our system of understanding the needs of our patients to deliver services that meet their needs

### PROJECTS

- Develop strategies to safely reduce the duration of the on-boarding process for new clinicians to 60 days
- Develop and implement processes to increase the number of Medic EMTs who successfully upgrade to Paramedic
- Assess Agency needs pertaining to employee psychological health and develop recommendations for stress management strategies
- Recommend functionality and feature options for the Agency's new ambulance
- Recommend functionality and feature options for the Agency's new building
- Improve interaction and communication with leadership across the Agency
- Develop Medic's diversity business case
- Establish Medic's diversity advocate work team
- Grow Medic's high school student development and recruitment strategy with Charlotte Mecklenburg Schools
- Develop screening tools to identify bacterial infections in patients in the prehospital setting
- Analyze the impact of increasing paramedic ability on scene to recommend alternative care options for patients deemed to not need an ambulance or care in an area ED
- Study the impact of delayed ambulance dispatch for call types proven to have a very high occurrence of low-to-no acuity patients

## MEDIC: AT A GLANCE

587

EMPLOYEES

112,270

TRANSPORTS

146,265

RESPONSES

10

EMERGENCY DEPARTMENTS SERVED

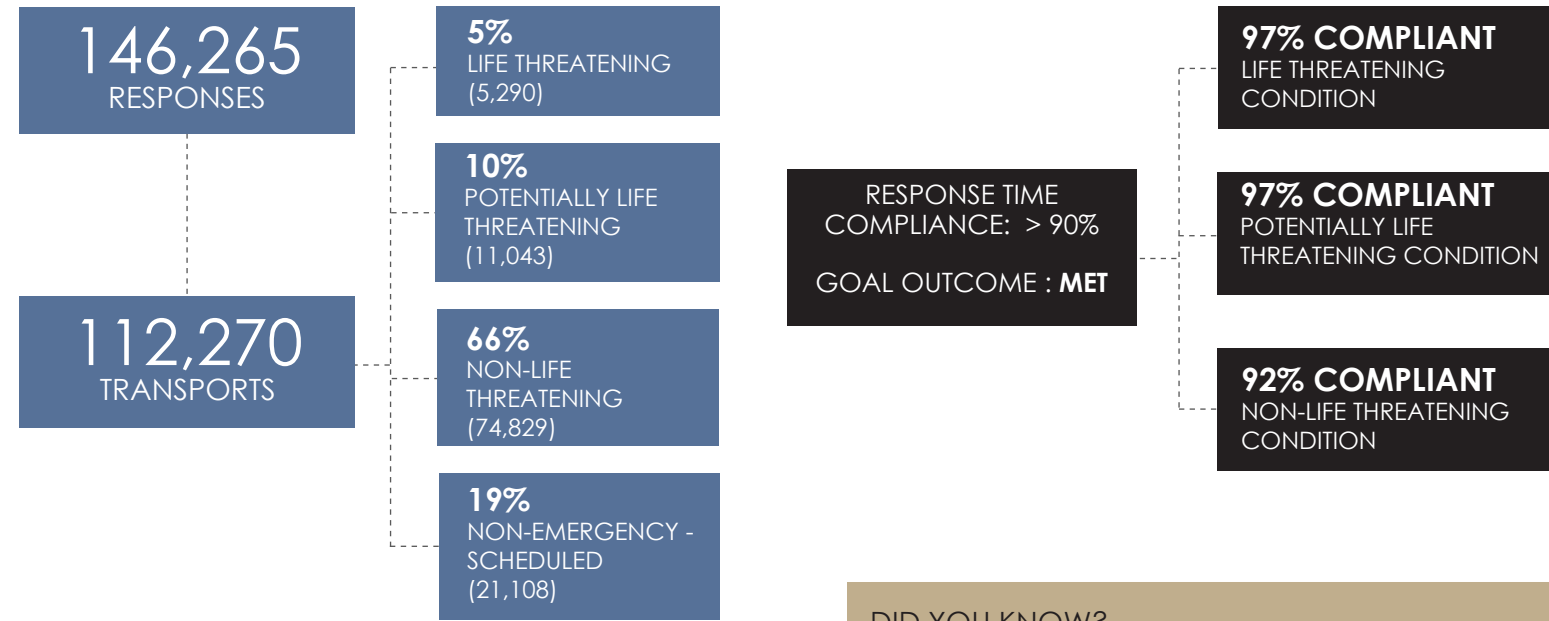
1,054,835

RESIDENTS IN THE SERVICE AREA

65%

PATIENT WHO RATED OVERALL QUALITY OF CARE AS "EXCELLENT"

## DEMAND BREAKDOWN

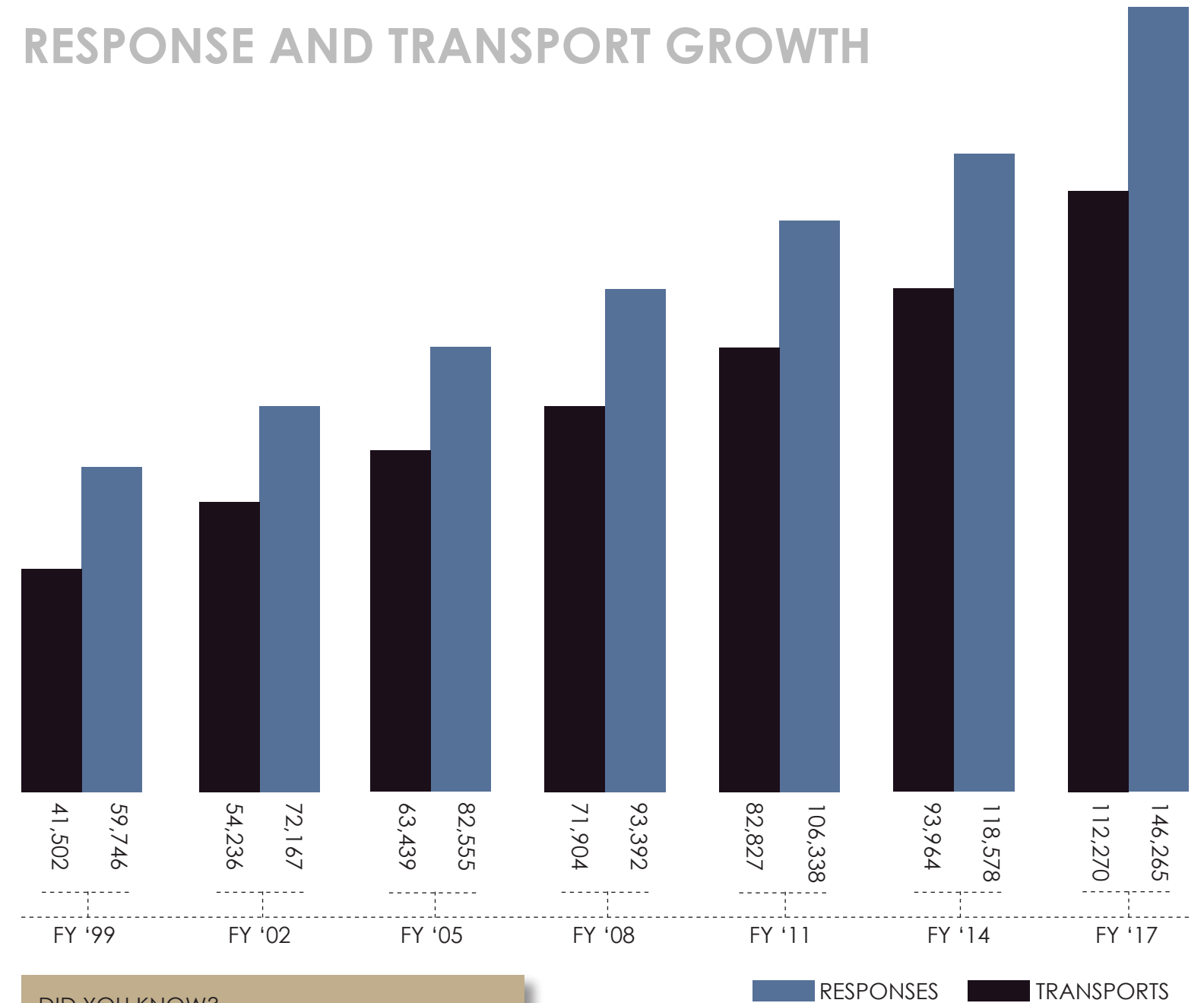


DID YOU KNOW?...  
**Medic dispatches all fire calls in Mecklenburg County, outside the city of Charlotte.**  
 To learn more, visit [medic911.com](http://medic911.com)

## MOST FREQUENT 911 CALL TYPES

CALL TYPE	COUNT	CALL TYPE	COUNT
TRAFFIC ACCIDENT/ENTRAPMENT	14,375	CHEST PAIN	9,299
SICK PERSON	13,824	UNKNOWN PROBLEM/MAN DOWN	7,041
BREATHING PROBLEMS	11,262	PSYCHIATRIC/SUICIDE ATTEMPT	5,446
FALLS/BACK INJURY/TRAUMA	10,962	ASSAULT	5,053
UNCONSCIOUSNESS/FAINTING	10,672	OVERDOSE/INGESTION/POISON	4,537

## RESPONSE AND TRANSPORT GROWTH



DID YOU KNOW?...  
**Between fiscal years 2010 - 2017, Medic's transport volume increased by 47%. This is greater than three times the rate of Mecklenburg County's population growth.**  
 To learn more, visit [medic911.com](http://medic911.com)





Left to right: Sherri Steele, Ryan Lowe and Tiffany Johnson



Brandis Ridenhour

## MISSION ORIENTED EMPLOYEES

A common thread binds each of the people who choose to work at Medic: a selfless commitment to fulfilling the Agency's mission in the community. The most obvious examples are the Paramedics and EMTs in the field who respond swiftly and safely at all hours of the day, regardless of the challenges they may face on any given call. They are highly trained, remarkably skilled, and deeply compassionate towards their patients. They are also not alone.

Behind the scenes there is an emergency medical dispatch center filled with highly trained personnel that deftly process calls into the Agency's 911 call center, ensuring the appropriate level of response is provided. There is also a logistics department that makes sure every ambulance is properly stocked with necessary equipment and medications to handle a shift with multiple patient care encounters. There is a fleet department working to make sure all 72 of the Agency's ambulances are reliably available for duty. There are also dozens of other people who work behind the scenes to handle critical support functions, such as clinical education, quality improvement, HR, risk and safety, billing, finance, IT, and scheduling.

587 employees, one common mission: To save a life, hold a hand, and be prepared to respond in the community when and where our patients need us.

### DID YOU KNOW?...

**Medic's clinicians receive an average of 40 hours of continuing education each year.**

To learn more, visit [medic911.com](http://medic911.com)

The following awards were presented to Medic employees in FY '17:

#### STARS OF LIFE

**Tiffany Johnson**  
**Ryan Lowe**  
**Sherri Steele**

#### BURNETTE - NOBLES

**Brandis Ridenhour**

#### TOP CALL

**Max Adams**  
**Meghan Clark**

#### UNsung HERO

**Scott Bodien**  
**Darlene Hicks**  
**Veronica Michaelis**

**73**  
EMPLOYEE SATISFACTION  
MEAN SCORE

TARGET:  
> 82

GOAL OUTCOME:  
**DID NOT MEET**







Patient: Martha Gaffney (left)

## PATIENT QUOTES

# 7:49

AVERAGE PRIORITY ONE  
TRAUMA PATIENT  
SCENE TIME

TARGET:  
< 10:00  
GOAL OUTCOME: **MET**

### DID YOU KNOW?...

**Medic will celebrate its 40th anniversary in October of 2018.**

To learn more, visit [medic911.com](http://medic911.com)

*"They knew I needed kindness; that human connection. [They] held my hand when they asked me questions."*

- Joan T.

*"[The crew's] overall communication made me and my family comfortable. I felt protected."*

- Tom P.

*"I think the [Medic] personnel is highly qualified and well trained. It shows in the way [that] they handle themselves."*

- Mary W.

*"They treated me with extreme care. The [Medic staff] knew what they were doing and eased my mind during the process."*

- Peter H.

*"[It was] a smooth transition to the hospital. They were concerned and compassionate"*

- Stephanie A.

## OUR PATIENTS

The people Medic serves in Mecklenburg County are the reason for the Agency's existence. Clinical outcomes certainly matter as does the feedback received from patients regarding their experience in the Agency's care.

Many times feedback is initiated by patients. Sometimes this occurs through an in-person reunion between the care providers and their patient. In addition to these instances, Medic also reaches out for feedback to 200 patients per month through a third party organization. All of the information gathered through these interactions helps Medic continue making improvements to the overall patient experience, a goal that helps ensure we remain focused on the people who matter most.

# 65%

PATIENTS WHO RATED  
OVERALL QUALITY OF  
CARE AS "EXCELLENT"

TARGET:  
> 65%

GOAL OUTCOME: **MET**



Patient: Randy Aldridge



Patient: Mitchell Griggs (far left)





A cardiac event can have dire consequences if not quickly and properly managed. It is for this reason that Medic has invested so deeply in the research and improvement of processes that directly impact patient outcomes during such emergencies.

Medic's collaboration with the cardiology groups affiliated with both hospital systems in Mecklenburg County has yielded a system of care that is second to none in the nation. For heart attack victims, this translates into an accurate diagnosis by Paramedics in the prehospital setting followed by rapid treatment and transport directly to the nearest catheterization lab for physician intervention. Medic's performance with heart attack care was recognized by the American Heart Association in FY '17 with a Mission: Lifeline Gold Plus award.

For sudden cardiac arrest (SCA) patients, Medic relies on years of advanced research and protocol improvement to yield patient outcomes that are among the very best in the entire country. In FY '17, Medic clinicians were able to achieve the return of spontaneous circulation (ROSC) on 88% of the SCA victims treated who met the Utstein criteria. This marks the third straight year Medic has topped the 80% mark. Equally impressive is the fact that 52% of Utstein patients survived to hospital discharge.



## CLINICAL EXCELLENCE

# 81:09

HEART ATTACK:  
TIME BETWEEN RECEIVED 911 CALL  
AND CATH LAB INTERVENTION

TARGET:  
< 90:00

GOAL OUTCOME : **MET**

# 92%

HEART ATTACK:  
PREHOSPITAL  
DETERMINATION

TARGET:  
> 85%

GOAL OUTCOME : **MET**



# 88%

PATIENTS IN CARDIAC ARREST  
WHO ACHIEVE ROSC\*

TARGET:  
> 40%

GOAL OUTCOME : **MET**

\*ROSC: Return of Spontaneous Circulation - Utstein Template





## COMMUNITY ENGAGEMENT

Providing education and training to the residents and visitors of Mecklenburg County is one more way that Medic can help improve patient outcomes. It is with this aim in mind that each year Medic collaborates with area schools, churches, businesses, and event organizers to have a meaningful presence and engage with people in the community.

In FY '17, Medic expanded the scope of this work by partnering with the Mayor's Youth Employment Program (MYEP) in Charlotte to provide internship opportunities to six high school students interested in pursuing a career in medicine. Each of the participants spent three months at Medic's headquarters where they shadowed various departments and learned the inner workings of one of the nation's top EMS Agencies. They also spent time in Medic's Emergency Medical Dispatch Center in addition to riding along in an ambulance with one of Medic's field crews.

## RESEARCH AND IMPROVEMENT

Clinical research is a vital component of Medic's strategy to continually improve the Agency's impact on patient outcomes. Medic partners with both hospital systems in Mecklenburg County in addition to other EMS Agencies from across the country to conduct this work and it has led to numerous positive changes in the delivery of prehospital medicine over the years.

Medic is currently engaged in several such studies, the most notable being the development of diagnosis and treatment protocols for bacterial infections in the prehospital setting and the advancement of screening tools for pediatric patients.

### DID YOU KNOW?...

**Medic received a \$52,000 grant to conduct research towards improving pediatric emergency care.**

To learn more, visit [medic911.com](http://medic911.com)



## PEDIATRIC CARE RESEARCH

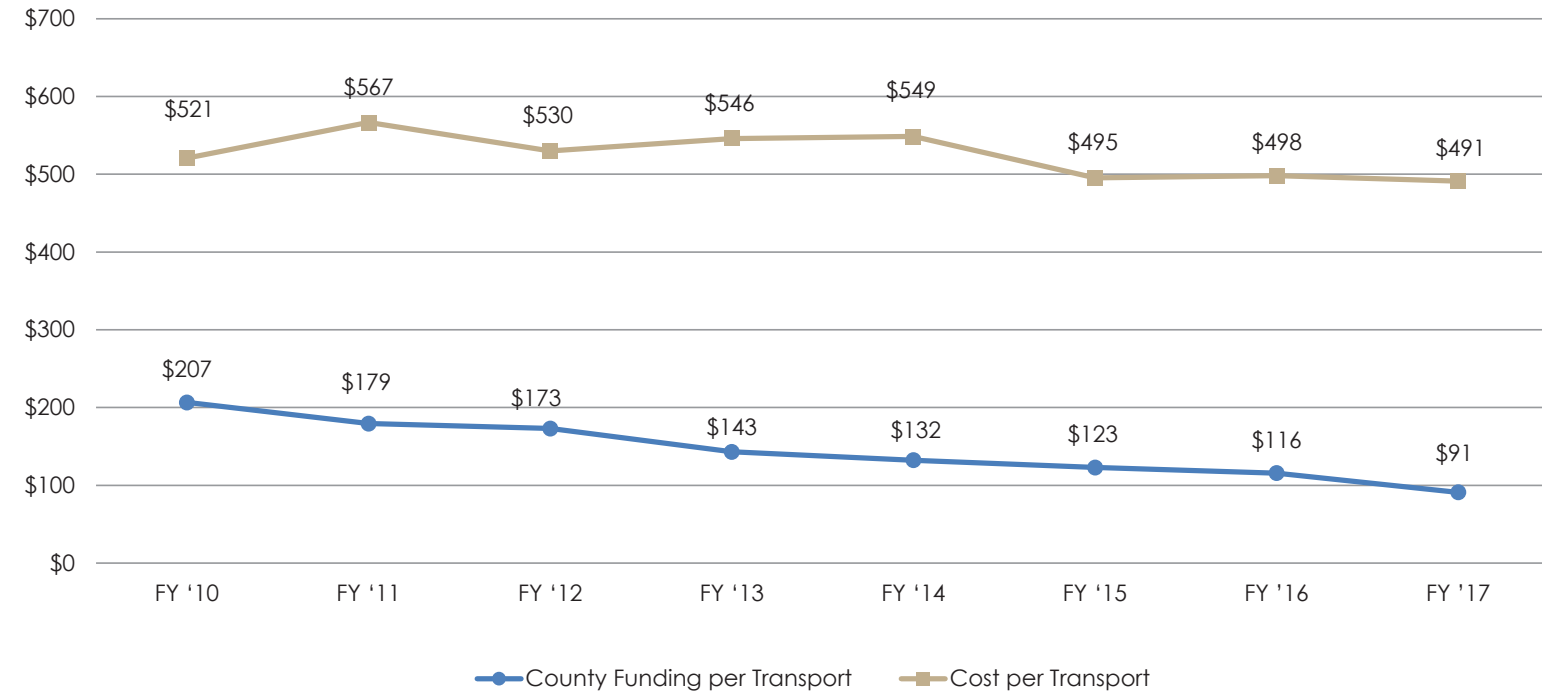
Medic is part of a multi-institutional research collaborative called the Pediatric Emergency Care Applied Research Network (PECARN). The goal of this group is to conduct meaningful research in the prevention and management of acute illnesses and injuries in children across the continuum of emergency medicine.

In FY '17, this team presented the framework for a new screening tool aimed at helping identify severely ill children in the prehospital setting. The tool will allow EMS professionals to clearly identify those children who have acute emergent conditions that require the care of a pediatric capable Emergency Department as compared to those children who simply need care in a general Emergency Department.

This proposal is one of only two EMS-driven studies ever approved by the PECARN Steering Committee, clearing the path for development into a protocol to be funded for further study. If successful, this protocol will not only impact the quality of care provided to seriously ill children here in Mecklenburg County, but it will also become the catalyst for guidelines to be used by EMS systems throughout the world.



FY '17 COST PER TRANSPORT VS. COUNTY FUNDING



## OUR STEWARDSHIP

Fiscal sustainability is one of Medic's core values. In FY '17, Medic's county funded cost per transport was \$91, which represents the lowest figure in the Agency's history. This reduced reliance on county funding can be attributed to several factors including improved billing practices, increased efficiency, and effective cost management practices.

A good example of improved cost management can be seen in the recent ambulance redesign project. The first 15 newly designed vehicles were put into service in FY '17 and are predicted to have a lower total cost of ownership as compared to their predecessors of at least \$28,000 per unit.

This translates to potential savings of \$1.79 million over the entire eight year life cycle of the Agency's fleet of 64 Advanced Life Support (ALS) ambulances. Medic's work on ambulance redesign earned the Agency recognition by the National Association of Counties in 2017.



### FY '17 FINANCIAL PERFORMANCE

FY '17 Revenue	\$53,597,208
2016 Encumbrances	\$5,712,252
Assigned Fund Balance	\$2,411,070
Total Available	\$61,720,530
FY '17 Expenditures	\$58,283,652
FY '17 Encumbrances	\$2,528,511
Total Spent	\$60,812,163
Excess Revenue vs. Expenditures	\$908,367
Excess Revenue vs. Expenditures %	1.5%
Unassigned Fund Balance	\$1,739,828

### FY '17 FISCAL COST COMPARISON

	CFD	CMPD	MEDIC
FY '17 City/County Funding	\$118,723,360	\$246,644,617	\$10,268,930
Total Budget (City/County)	\$2,450,712,253	\$2,450,712,253	\$1,640,892,421
Total Budget Percentage	4.84%	10.06%	0.63%
Population	842,051	842,051	1,054,835
Per Capita Tax Funding	\$140.99	\$292.91	\$9.74
Per Capita Cost	\$140.99	\$292.91	\$54.40

DID YOU KNOW?...

**Medic's fleet traveled 2,682,607 million miles in FY '17**

To learn more, visit [medic911.com](http://medic911.com)







## FY '17 LEADERSHIP

### AGENCY BOARD OF COMMISSIONERS

- Katie Kaney, Chair – CHS
- Amy Vance, Vice Chair – NH
- Alishaha Cole, MD – CHS
- Mark Foster – MC
- Matthew Hanley, MD – CHS
- Paula Vincent – NH
- Tom Zweng, MD – NH

### AGENCY MANAGEMENT COMMITTEE

- Voting Members
- Katie Kaney – CHS
  - Chris Peek – MC
  - Amy Vance – NH

### FINANCE COMMITTEE

- Voting Members
- Bill Lyle – CHS
  - Mark Foster – MC
  - Melissa Masterton – NH

### Agency Officers

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

### MEDICAL CONTROL BOARD

#### Voting Members

- Mike Gibbs, MD, Chair – CHS
- Eric Eskioglu, MD – NH
- Sid Fletcher, MD – NH
- Carlene Kingston, MD – NH
- Gary Niess, MD – NH
- David Pearson, MD – CHS
- Bradley Thomas, MD – CHS
- Brad Watling, MD – CHS

#### Non-Voting Members

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

### QUALITY MANAGEMENT COMMITTEE

#### Voting Members

- 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
- Stephen Wright, RN – CHS

#### 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)







Medic will relocate to 4425 Wilkinson Blvd.  
Charlotte, NC in January 2018

For more information, visit [buildmedic.com](http://buildmedic.com)



Medical Excellence. Compassionate Care.

OUR PATIENTS. OUR PEOPLE. OUR STEWARDSHIP. OUR PURPOSE.

[medic911.com](http://medic911.com)



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