









### FISCAL YEAR 2010 ANNUAL REPORT

CELEBRATING OVER 30 YEARS OF SERVICE TO MECKLENBURG COUNTY





# FACES OF MEDIC





### FROM THE DESK OF THE EXECUTIVE DIRECTOR

Fiscal Year 2010 (FY 2010) was quite fulfilling for Medic on many fronts.

FY 2010 was the busiest in the Agency's 31 year history. Medic experienced significant growth in total call volume, total patient transports and non emergency transport volume. An important statistic from FY 2010 is that 68% of Medic patients surveyed rated the Agency's service delivery as being excellent. Whether Medic serves 1 or 100,000 patients each year, delivering excellent patient care will always be the top priority for this Agency.

Patient Satisfaction is only one of many key indicators this Agency monitors on an ongoing basis to ensure the Agency is in a position to consistently deliver excellent patient care. Items such as

on-scene time for critically injured trauma patients, pre-hospital time for heart attack victims, successful resuscitation of cardiac arrest patients, and financial performance against budget are all tracked, analyzed and reported to various oversight committees and boards.

Below is one such set of performance standards that is monitored and reported to the Agency's Board of Commissioners. Clarity on what matters along with corresponding measurement enables evidence based decisions. Ultimately, Medic uses this information to drive further improvement strategies that ensure operation at the highest level possible.

I am very proud of the efforts every employee in this Agency put forth this past fiscal year to aid this community and deliver excellent results to those we are here to serve.

Sincerely,

Josef Penner

Executive Director, Medic

### FY 2010 Pillar Goals

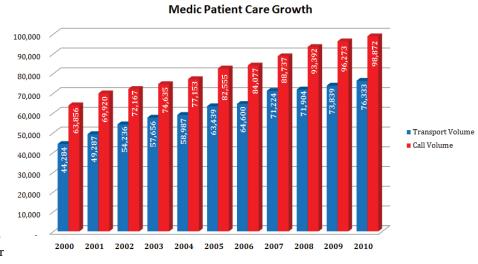
People	Service	Quality	Finance	Community
Employee	Patient	Cardiac Arrest	Budget	Engagement
Satisfaction	Satisfaction	ROSC/Utstein Template (pre-hospital)	Revenue exceeds	Bystander CPR
Mean Score	Excellent Rating	5 – 46%+	expenses by 1% or	<b>5</b> – 50%+
<b>5</b> – 85%	<b>5</b> – 65%+	4 – 43%+	greater	4 – 47%+
4 - 83%	4-63%+	3 – 40%+ 52%		3 – 44%+
<b>3</b> – 81%	3-60%+	2 – 38%+		<b>2</b> – 41%+
<b>2</b> – 79%	<b>2</b> – 58%+	1 – 35%+		1 – 38%+
1 – 77%	1 – 55%+			
		Cardiac Triage Composite		
		Patient contact (911 call center) to lesion		
76%	68%	treatment ≤ 90 minutes <b>78:55</b>	6.7%	23%
		Accurate pre-hospital determination		
		90%+		
		P1 Trauma Scene Times		
		<b>5</b> − <u>&lt;</u> 9:30		
		4 − ≤ 9:50		
		3 - ≤ 10:00 <b>10:18</b>		
		2 - ≤ 11:00		
		<b>1</b> − <u>&lt;</u> 12:00		



## MEDIC AT A GLANCE

Medic) continues to operate the busiest 911 Emergency Medical Services Agency in the state of North Carolina.

The Agency's responsibilities span 526 square miles, including the Charlotte metropolitan area. With a population of nearly 1,000,000 people, two professional sporting venues, the recently opened NASCAR Hall of Fame, two renowned hospital systems, multiple college campuses, three major



lakes, a bustling international airport, two nuclear power plants and several major business centers, the Agency has a very diverse, challenging environment in which to serve.

FY 2010 was another record-breaking year for Medic. The Agency set records for overall transport volume, non-emergency transport volume and the total number of calls received by the Agency's 911 emergency dispatch center.

Thirty one years of experience combined with excellent strategic planning ensures that such unprecedented demand for the Agency's services can occur without a negative impact on the quality of service delivered. This is reflected by the fact that 68% of all Medic patients surveyed by an independent company rated the Agency's overall quality of service delivered as excellent in FY 2010.



### Service Area Overview

Area Served: Mecklenburg County

Location: South Central NC

Population: 914,000\*

Households: 390,000\*

Residents Living Below Poverty Line: 11%

Community Members Whose Primary Language is Other

than English: 14%

Services Provided: ALS (Advanced Life Support), BLS (Basic Life Support), NET (Non-Emergency Transport)

\*Statistical Estimate - Source: US Census Bureau



Percentage of Calls On-Time per Contract

100.00%

98.00%

96.00%

94.00%

92.00% 90.00%

88.00%

86.00%

84.00%

82.00%

80.00%

## PERFORMANCE MATTERS

95.49%

County Contract Compliance by Priority Level

97.86%

96.39%

P3 Calls

s a joint government agency, Medic is responsible for carrying out the expectations of the Mecklenburg County Manager and the Board of County Commissioners. The Agency has a binding contract with Mecklenburg County mandating that certain financial and performance related criteria is reported on and met regularly.

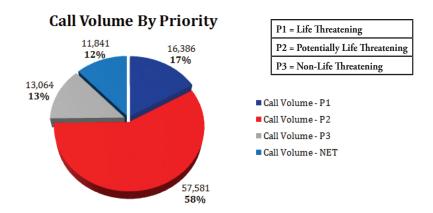
Every Medic employee is fully committed to doing their part to meet or exceed the expectations of those we serve. To this point, Medic is proud to have extended the Agency's streak of consecutive months where the emergency response criteria set forth by the county has been met or exceeded to 168.

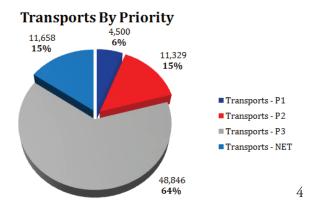
P1 Calls P2 Calls In addition to the county's performance criteria, Medic also tracks Call Priority Level and focuses on continued improvement in key areas such as driver

safety, priority one trauma scene times, pre-hospital time for code STEMI patients (heart attacks), and out of hospital cardiac arrest resuscitation success rates. It is this relentless commitment to collecting and analyzing performance data that will continue driving Medic's ability to deliver excellent patient care well into the future.

Below are the top ten calls by volume as recorded by Medic's Emergency Medical Dispatch Center (CMED) for FY 2010:

FY 2010 Top Ten Calls by Volume						
(1) Breathing Problems	9105	(6) Fall/Back Injury	7347			
(2) Unconsciousness/Fainting	8909	(7) Abdominal Pain	3877			
(3) Sick Person	8181	(8) Convulsion/Seizure	3452			
(4) Traffic Accident	8052	(9) Assault	3262			
(5) Chest Pain	7483	(10) Unknown Problem	3198			







## TRANING AND EDUCATION ADVANCEMENT

Medic employees who are certified as an EMT, EMD, EFD or a Paramedic complete approximately 44 hours of continuing education annually. Training is conducted through a variety of lecture, hands-on and reality-based simulation. The Agency's Medical Services department coordinates all continuing education and simulation programs. Training topics covered in FY 2010 included burn emergencies, 12-lead ECG review, sepsis, endocrine emergencies, nervous system conditions and nuclear/radiological emergencies.

The Medical Services department also partnered with the Levine Museum of the New South to design and deliver a unique diversity training program, *Everyone Has a Story*. This program focused on the many cultures, languages, religions, practices and customs that are found within Medic as well as throughout the Charlotte-Mecklenburg community that the Agency serves.

Medic also participated in two large scale drills that tested the region's preparedness for handling different types of mass casualty incidents (MCI). The first was an exercise coordinated by Medic, the Charlotte-Mecklenburg Office of Emergency Management, the North Carolina Air National Guard and the U.S. Veterans Administration/National Disaster Medical System.

This full-scale exercise tested Medic's ability to respond to the North Carolina Air National Guard base at Charlotte Douglas International Airport to receive large numbers of casualties from another part of the country as a result of a major hurricane.

The second major exercise that Medic participated in focused the Agency on issues associated with responding to a dirty bomb explosion on a Charlotte Area Transit System (CATS) light rail car. This multi-agency exercise was orchestrated along with representatives from the Charlotte Fire Department, Charlotte Police Department, the Federal Bureau of Investigation, the National Transportation Safety Board, the Department of Homeland Security and CATS.









## COMMUNITY ENGAGEMENT AND EDUCATION

very year Medic focuses on a project designed to help make Mecklenburg County E a healthier, safer place to live.

For the past two years, Medic has focused on helping train the community in both CPR and AED awareness while increasing the number of AEDs located throughout Mecklenburg County. The project, better known as The Lucky Hearts Campaign, is a strategic partnership between Medic and the Mecklenburg Medical Alliance and Endowment (MMAE).

This program grew tremendously in FY 2010; the Agency trained 620 people in CPR and AED awareness and donated a total of 17 new AEDs. With this fiscal year complete, The Lucky Hearts Campaign has now trained a total of 1,015 people while donating 34 AEDs across the county.

In March of this year, *The Lucky Hearts Campaign* was selected as the recipient of a \$31,000 donation in honor of State Representative Becky Carney, who was saved in 2009 by a public use AED while working at the State House in Raleigh, NC. The donation was enough to purchase 20 AEDs which will be donated to area churches in Representative Carney's honor over the course of the next year. Medic will also be training 50 people at each of the 20 churches, helping another 1,000 people gain valuable CPR/AED training in Mecklenburg County.

The Lucky Hearts Campaign will continue throughout the next fiscal year and will be working with more County non-profit agencies and the Charlotte-Mecklenburg Police Department.





### **FY 2010 Lucky Hearts Trainings**

Nevins, Inc

Faith CME Church

University Hills Baptist Church

The Salvation Army Center of Hope

Thompson Child & Family Focus

East Meck High School

Northside Baptist Church

Northside Baptist Church Academy

Hickory Grove United Methodist Church

St. John Neumann Catholic Church

Clear Creek Baptist Church

Davidson United Methodist Church

University City United Methodist Church

Robinson Presbyterian Church

Philadelphia Presbyterian Church

Grier Heights Presbyterian Church

New St. Johns Baptist Church

Little Rock AME Baptist Church

Harding University High School

Hawthorne High School

Phillip O. Berry High

Northwest School of the Arts

Garinger High School

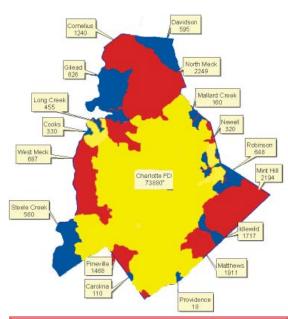
Global & Military Leadership

Academy

Independence High School



## FIRST RESPONDERS/EMERGENCY DISPATCH



The above map shows the number of EMS-related calls Medic dispatched to each of the 19 First Responder areas during FY 2010.

### FIRST RESPONDERS

First responders are a vital part of Medic's emergency response strategy. There are 19 first responder agencies located throughout Mecklenburg County. These first responders assist Medic with certain elements of patient care, such as cardiac arrest scene management, in addition to providing necessary assistance when physical rescues are required to reach a patient, as would be the case with a serious motor vehicle accident.

In addition to handling every EMS-related call in Mecklenburg County, Medic also dispatches all County fire-related calls outside of the City of Charlotte. This includes all fire and EMS related emergencies that occur in the communities of Cornelius, Davidson, Huntersville, Matthews, Mint Hill and Pineville.

Medic also works closely with trained first responders located at Charlotte Douglas International airport and at Carowinds Amusement Park.

#### PRIORITY DISPATCH

The use of the Medical Priority Dispatch System (MPDS) is another area of distinction for Medic. MPDS is a structured series of questions and instructions that the Agency utilizes to consistently process and triage calls that come into the Agency's emergency dispatch center. Utilizing MPDS ensures that all calls are processed, prioritized and supported in a consistent manner.

Medic is accredited by the National Academies of Emergency Dispatch (NAEMD) in both EMS and Fire Dispatch. As part of this accreditation, the Agency tracks and submits compliance quality scores to NAEMD every six months. In FY 2010, Medic received its third EMD and second EFD re-accreditations.

This level of commitment by the personnel in Medic's emergency dispatch center helps ensure that every patient in Mecklenburg County receives the right care at the right time, every time they dial 911.

\*Estimate based on best information available at print.

### 19 First Responder Agencies

Carolina Volunteer Fire Department City of Charlotte Fire Department Cooks Volunteer Fire and Rescue

Cornelius Volunteer Fire Department

Davidson Fire Department

Department

Gilead Volunteer Fire Department

Huntersville Volunteer Fire Department

Idlewild Volunteer Fire Department

Long Creek Fire Department

Mallard Creek Volunteer Department

Matthews Fire and Rescue

Mint Hill Ambulance

Newell Volunteer Fire Department

North Mecklenburg Rescue Squad

Pineville Volunteer Fire Department

Providence Volunteer Fire

Department

Robinson Volunteer Fire Department

Steele Creek Volunteer Fire

Department

West Mecklenburg Volunteer Fire Department



### **CLINICAL INNOVATION**

### FOCUSED CARDIAC ARREST PROTOCOL

Sudden cardiac arrest (SCA) cases present one of the greatest challenges that a Paramedic team can encounter. A series of things must come together in order for the outcome to be favorable for the patient.

Understanding this fact, Medic's Medical Director worked to develop the Focused Cardiac Arrest Protocol. The goal was to create a highly choreographed approach to working SCA patients that included advanced training with all first responders in the county.

Initially launched with the City of Charlotte Fire Department earlier this year, the Focused Cardiac Arrest Protocol is already yielding outstanding results for the citizens of Mecklenburg County. In FY 2010, successful resuscitation of SCA patients in the field occurred in more than 50% of the cases. This figure comfortably places Medic among the elite EMS Agencies in the country.

#### CODE STEMI PROTOCOL

During Fiscal Year 2010, Medic paramedics diagnosed and treated a total of 147 STEMI patients (heart attack). Thanks to the ongoing collaborative process undertaken by officials with Medic, Presbyterian Healthcare/Novant and Carolinas Healthcare System, these patients benefited from the best possible pre-hospital care available anywhere in the country, dramatically increasing their likelihood of a positive clinical outcome.

The jointly designed STEMI protocol that Medic utilizes on all heart attack victims significantly decreases the time that elapses from the initial 911 call into Medic's dispatch center to when the patient makes first contact with one of the three catheterization labs in Mecklenburg County.

In FY 2010, Medic's average time to get a STEMI patient from the initial 911 call to transfer to the catheterization lab was 78 minutes 55 seconds. The national benchmark for EMS systems to strive for is to successfully transfer care to hospital catheterization labs within 90 minutes. It is important to note that the national benchmark is based on a clock that starts with initial patient contact by Paramedics. Medic starts the clock upon pick up of the initial 911 call, making this achievement all the more impressive.







## FINANCIAL PERFORMANCE

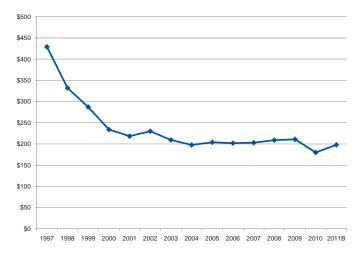
A pproximately 32% of Medic's total funding in FY 2010 was provided by Mecklenburg County; the remaining 68% was generated through service fees paid by self-paying customers, Medicare/Medicaid and private insurance.

The Agency operates under the same fiscal guidelines as other county-funded agencies. As part of its contract with Mecklenburg County, Medic must undergo a stringent external audit at the conclusion of every fiscal year, ensuring the Agency remains fiscally solvent.

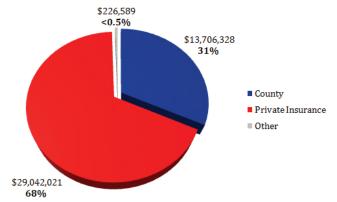
Medic, like other areas of government, has felt the significant effects of the ongoing economic downturn. The Agency remains committed to working with Mecklenburg County in a spirit of partnership to ensure only those resources that are necessary to support the needs of this community are requested and utilized. This Agency remains committed to focusing all available resources towards Medic's core mission of providing excellent patient care to the visitors and residents of Mecklenburg County.

	FY 2010	FY 2009
Current & Other Assets	\$22,838,848	\$16,114,554
Capital Assets	\$4,937,767	\$5,789,792
Total Assets	\$27,776,615	\$21,904,346
Current Liabilities	\$13,095,135	\$8,134,896
Total Liabilities	\$13,101,310	\$8,134,896
Net Assets		
Capital & Other Fixed Assets	\$14,681,480	\$13,769,450
Total Net Assets	\$14,681,480	\$13,769,450

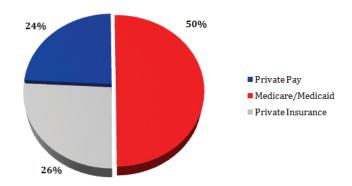
### **County Funded Cost Per Transport**



### FY 2010 Revenue Source Breakdown



### FY 2010 Payer Breakdown





### SPECIAL EVENTS

over 500 Medic hours were spent in FY 2010 providing emergency medical coverage to several different community and sporting events throughout the Mecklenburg County service area. Medic is extremely fortunate to have a host of unique resources and specially-trained teams at its disposal to ensure excellent patient care at any event, big or small, throughout the county.

Each year Medic utilizes the Agency's medically equipped ATV's and bicycles to provide event coverage in extremely crowded areas that would be too difficult to accommodate with ambulances alone. Events such as Speed Street, the 4th of July fireworks display and the festivities associated with New Year's Eve always receive a strong presence from specially trained Medic Event Teams, ensuring a safe time can be enjoyed by all.



### 2009 GOLD SERVICE AWARD WINNER

In October of 2009, Medic was named the 2009 Gold Service Award Winner by EMS Magazine. This annual award is presented to the top, paid service EMS Agency in the country following a very thorough, competitive evaluation process.



To achieve this honor, Medic demonstrated the Agency's comprehensive achievements in areas such as patient care innovation, employee training and certification, and community involvement.

To celebrate and share this significant achievement, 40 employees and members of the Agency's leadership team traveled together to the 2009 EMS EXPO in Atlanta, Georgia this past October.

Each of the Medic employees in attendance took to the stage in front of a packed auditorium while Richard Dean, Medic's Director of Operations, accepted the award on the Agency's behalf.



### **Med Center Air**

For more than a decade, Medic has called upon *Med Center Air* to respond to the most serious incidents, when the ability to get a patient to a level one trauma center as quickly as possible was likely to be the difference between life and death.

In FY 2010, *Med Center Air* was dispatched by Medic to a total of 32 critical incidents across Mecklenburg County.

Med Center Air serves the Charlotte metro area and is equipped to serve two patients and maintain radio contact throughout the flight with the hospital Emergency Department for Priority 1 Trauma patients.



## MEDIC ROAD SAFETY

### Total Number of Medic Assets (by Type)

Advanced Life Support (ALS) = 58

Basic Life Support (BLS) = 8

All Terrain Vehicles = 2

Mass Casualty Buses = 2

Mass Casualty Support Vehicles = 1

E very day, Medic employees operate their emergency vehicles through the busy streets of Charlotte and across Mecklenburg County. Employees maneuver through heavy traffic, narrow roads and often difficult rural areas.

The Agency is very focused on the safety of its employees, patients we serve and the community in which we work, especially when it comes to vehicle operation. That is why Medic invests so

heavily in training and tools to monitor and track employee driving habits.

Every Medic vehicle is equipped with a device known as *Road Safety*. This tool monitors all maneuvers made by the driver every single time they engage their vehicle. It will track driving behaviors, good and bad, and provide quantitative reports to be used in shaping future classes or providing feedback to employees on areas for improvement. Items tracked by the *Road Safety* device include seat belt use, speed history (emergency and non-emergency traffic), directional changes and use of lights, sirens and horns.

Every month, Medic's Risk & Safety Department releases the list of employee driving scores. Employees are graded on a scale of 1 to 10; with 1 being the worst driving score to 10 being the best. Employees must score an 8 or better every quarter to keep within the Agency's expectations.

### **FLEET SERVICES**

Medic's onsite Fleet Department brings more than 100 years of valuable automotive industry experience to the Agency. The Fleet Department's focus is the same as every other department with Medic: to deliver excellent patient care to the right place at the right time. They do this by keeping the Agency's sizable fleet safely on the road, ensuring that vehicle reliability is never a factor in Medic's ability to deliver excellent patient care.

Each of the Master Technicians within Medic's Fleet Department have been certified through the National Institute for Automotive Service Excellence, a process which requires highly technical recertification testing every five years.



All employees operating Medic vehicles must first log in using their assigned key fob as part of the Agency's Road Safety program.



Medic's fleet of vehicles traveled a total of 2.2 million miles in FY 2010.



# PARTNERSHIP FOR THE COMMUNITY

M edic's ability to consistently deliver excellent patient care is due, in large part, to the dynamic relationship the Agency shares with both hospital systems in Mecklenburg County: Carolinas Healthcare System and Presbyterian Healthcare/Novant.

Since 1996, both hospital systems have contributed to the success of Medic by serving as bipartisan members of the Agency's Medical Control Board, a governing oversight team equally comprised of physicians from both hospital systems.

This highly unique partnership on Medic's behalf allows a higher level of pre-hospital care to be delivered to the residents of this county.

There are many examples that illustrate the great working relationship that Medic has with both hospital systems and the clinical benefits this strategy brings to the community. Medic's Code STEMI Protocol, which enables Medic Paramedics to diagnose and transport heart attack victims directly to the catheterization lab at either hospital, and the Code Cool protocol, which enables Medic to administer chilled saline to cardiac arrest victims in the field to help aid neurological recovery, were designed jointly with both hospital systems for the benefit of patients; this level of collaboration is virtually unheard of in EMS.

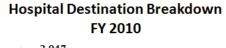


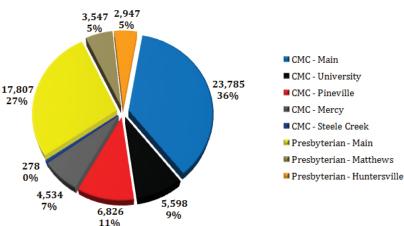
Presbyterian Hospital



Carolinas Medical Center with Levine Children's Hospital

Medic is extremely proud of the relationships the Agency has with Carolinas Healthcare System and Presbyterian Healthcare/Novant. Both hospital systems will continue to play an integral role in solidifying Medic's position as one of the leading EMS agencies in the country.







#### AGENCY BOARD OF COMMISSIONERS

(Appointed by Mecklenburg County Board of Commissioners)

Suzanne Freeman, Chair Carolinas Medical Center

Paula Vincent, Vice Chair Presbyterian Healthcare/Novant

Buck Wiggins, Budget Officer Carolinas Medical Center

Mark Billings, Clerk Presbyterian Healthcare/Novant

Harry Weatherly Mecklenburg County

Dennis Phillips Carolinas Medical Center

Dr. Thomas Zweng Presbyterian Healthcare/Novant

#### MANAGEMENT COMMITTEE

(Appointed by Agency Board of Commissioners)

### **Voting Members**

Paula Vincent, Chair Presbyterian Healthcare/Novant

Katie Kaney, Vice Chair Carolinas Medical Center

Buck Wiggins Carolinas Medical Center

Mason Ellerbe Carolinas Medical Center

Nancy Alexander, Presbyterian Healthcare/Novant

Melissa Masterson, Presbyterian Healthcare/Novant

### **Non-Voting Members**

Michelle Lancaster General Manager, Mecklenburg County

#### MEDICAL CONTROL BOARD

(Appointed by Agency Board of Commissioners)

#### **Voting Members**

Dr. Doug Swanson, Chair Carolinas Medical Center

Dr. Steven Folstad Presbyterian Healthcare/Novant

Dr. Gary Niess Presbyterian Healthcare/Novant

Dr. Harry Sibold Presbyterian Healthcare/Novant

Dr. Mike Bosse Mecklenburg County

Dr. Thomas Zweng Presbyterian Healthcare/Novant

Dr. Jonathan Millard Carolinas Medical Center

Dr. Mike Thomason Carolinas Medical Center

#### **Non-Voting Members**

David Leath Mint Hill Volunteer Fire Department

Dr. Earl W. Mabry, Public Health Director Mecklenburg County

Joe Penner Executive Director, Medic

Katie Kaney Carolinas Medical Center

Jon Hannan Fire Chief, City of Charlotte

Dr. Tom Blackwell Medical Director, Medic

Nancy Alexander Presbyterian Healthcare/Novant

### **QUALITY MANAGEMENT COMMITTEE**

(Appointed by Agency Board of Commissioners)

### **Voting Members**

Dr. Tom Blackwell, Chair Medical Director, Medic

Dr. Steven Folstad Presbyterian Healthcare/Novant

Sandra Bjork Carolinas Medical Center

Dr. Doug Swanson Carolinas Medical Center

Dr. Mike Bosse Carolinas Medical Center

Paula Swain Presbyterian Healthcare/Novant

Dr. Stephen Wallenhaupt Carolinas Medical Center

#### **Non-Voting Members**

Dr. Earl W. Mabry, Public Health Director Mecklenburg County

Joe Penner Executive Director, Medic

Kevin Staley Deputy Director, Learning & Development

Barry Bagwell Deputy Director, Operations

#### MEDIC LEADERSHIP TEAM

Josef Penner, Executive Director Dr. Tom Blackwell, Medical Director Barry Bagwell, Deputy Director, Operations Kevin Staley, Deputy Director, Learning & Development Jeff Keith, Deputy Director, Administration Shelly Forward, Finance Manager



MEDIC IS A PATIENT-CENTERED SYSTEM OF CARE ACHIEVING EVIDENCE BASED QUALITY **OUTCOMES THROUGH** INVESTMENT IN OUR WORKFORCE, STRATEGICALLY LEVERAGING **AVAILABLE RESOURCES AND** BY COLLABORATING WITH THE











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Providing Excellent Patient Care is Our #1 Goal

THE EMPLOYEES OF MECKLENBURG EMS AGENCY