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LETTER FROM THE EXECUTIVE DIRECTOR

Dedication is often seen as self-sacrificing devotion and loyalty. While service can be considered a contribution to the welfare of others, I believe these words can be used to describe our work this past year and are cornerstones of our mission at Medic. Together - as a team - we have faced adversity in the form of ever increasing call volume, staffing shortages and pandemic fatigue. However, it is the tremendous dedication and service provided by our workforce that have carried us though these challenges.

This year's annual report is a testament to the dedication and service that Medic employees have provided to our community in Mecklenburg County. The report highlights our achievements, acknowledges areas of improvement, and discusses key strategies for the future of the Agency. There is a lot to be proud of here. I hope that when you read this report, you will feel the same.

I would like to recognize our Agency Board of Commissioners, Medical Control Board as well as our hospital partners at Atrium Health and Novant Health for their ongoing support of Medic. Their support makes it possible for us to stay on the cutting edge of prehospital emergency medicine. I would also like to give a special thanks to Mecklenburg County for their guidance and partnership in assisting us with significant improvement to employee wages and development of new recruitment and retention programs. Thank you!

In Storan

MEDIC Mecklenburg EMS Agence

SYSTEM RESPONSIBILITIES Medic plays many roles in our community. Each layer of responsibility helps to keep Mecklenburg County residents and visitors safe while maintaining the appropriate levels of coverage at all times.

EMERGENCY MEDICAL & FIRE DISPATCH

Medic's 911 communication center processes all medical calls in Mecklenburg County and all fire dispatches for municipalities outside of the City of Charlotte. The Agency's telecommunicators are extensively trained to provide life-saving instructions to a caller before the arrival of first responders.





MASS CASUALTY PREPAREDNESS

Medic's team of Special Operations Technicians manage mass casualty events and are prepared to respond anywhere in the Southeast as requested by the NC Division of Emergency Management through mutual-aid agreements. Medic has two mass casualty transport buses and one supply truck that can deploy on a moment's notice.

911 RESPONSE & PATIENT CARE

Medic clinicians undergo 36 hours of continuing education each year and are prepared to respond, treat and consult with patients about their healthcare decisions. Medic also provides scheduled non-emergency transports, such as between hospitals and residences both locally and long-distanced. This service is vital to mitigate hospital capacity that has been at critical levels during COVID-19 peaks.





SPECIAL OPERATIONS

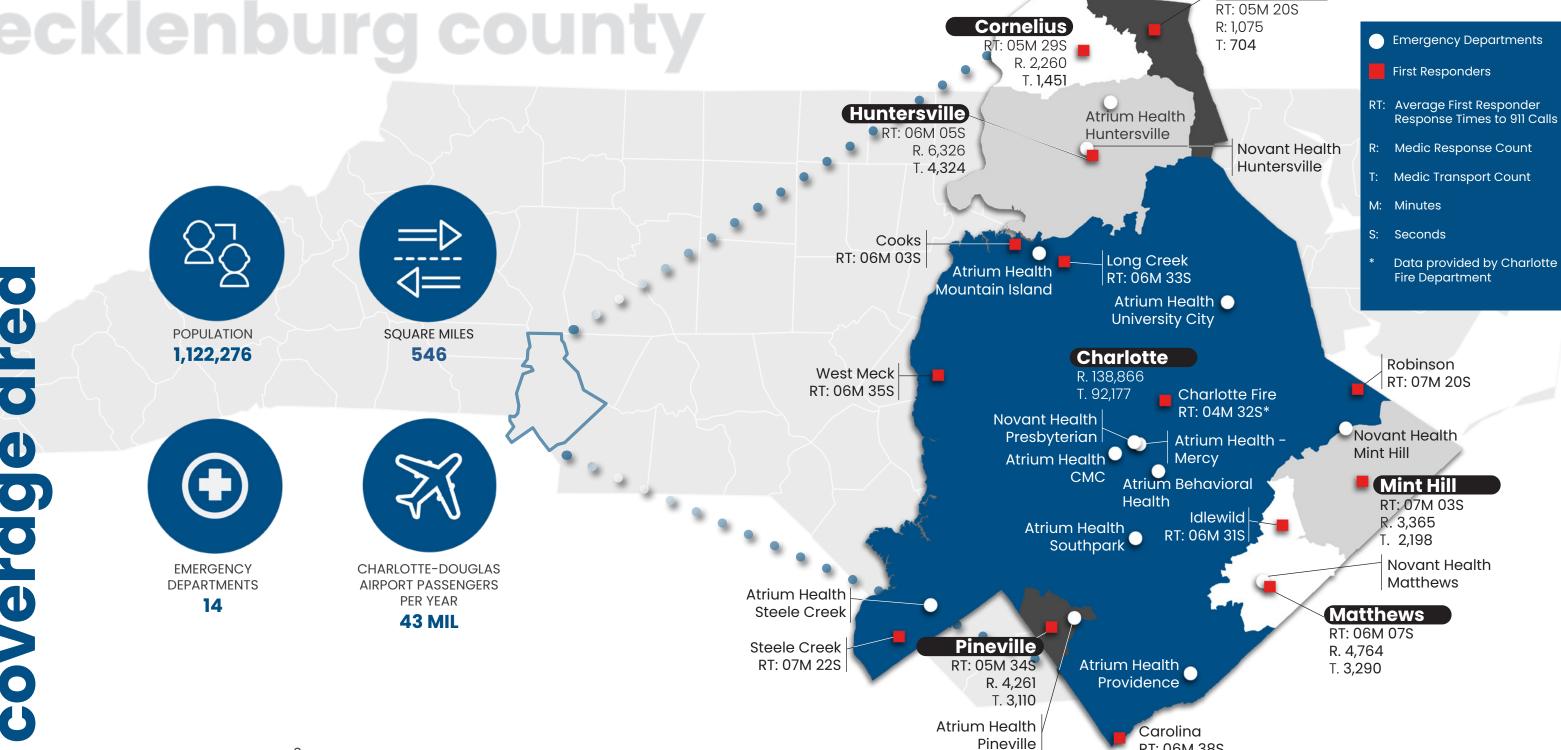
Medic's specialty teams provide emergency medical coverage for large scale special events alongside unified command with the Charlotte Fire Department, such as football matches, festivals and concerts. This coverage helps relieve the 911 system from the additional demand. Special Operations also includes tactical team support that is integrated with law enforcement for high-risk situations such as bomb threats and SWAT incidents.

AIRPORT EMS TEAM

The Charlotte-Douglas International Airport has dedicated Medic teams embedded in the facility that provides travelers with immediate access to emergency medical care while eliminating unnecessary responses from ambulances. In FY '22 there were 3,628 responses resulting in 880 ambulance transports at the airport; totaling 2,748 total ambulance responses avoided by utilizing the Airport EMS Team.



mecklenburg county



Davidson

RT: 06M 38S

8:15
Average Response Time: Life Threatening

medic: at a glance 107,307 Total Transports

8:38
Average Priority 1
Trauma Patient
Scene Time



0

2





161,123Total Responses

97.21% % 911 Calls Answered Under 10 Seconds 161,123 107,307

TOTAL MEDIC TOTAL MEDIC TRANSPORTS

NON-LIFE THREATENING

71%

NON-EMERGENCY SCHEDULED

13%

POTENTIALLY LIFE-THREATENING

10%

LIFE-THREATENING

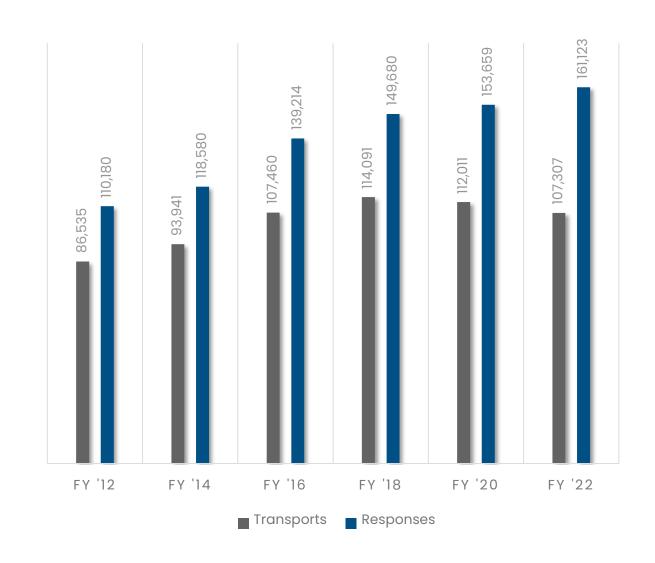
6%

TOTAL DISPATCH BREAKDOWN

In addition to medical dispatch, Medic is responsible for 911 calls and dispatches for all county fire departments outside the City of Charlotte. The breakdown below shows the workload distribution of Medic's Central Medical Emergency Dispatch.

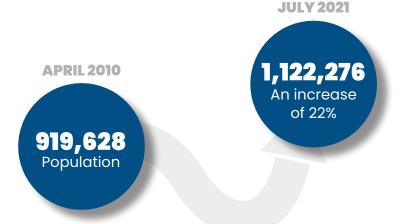
Total FV '22 Dispatches	192 138
County First Responder EMS	21,991
County Fire Rescue	9,024
Medic	161,123

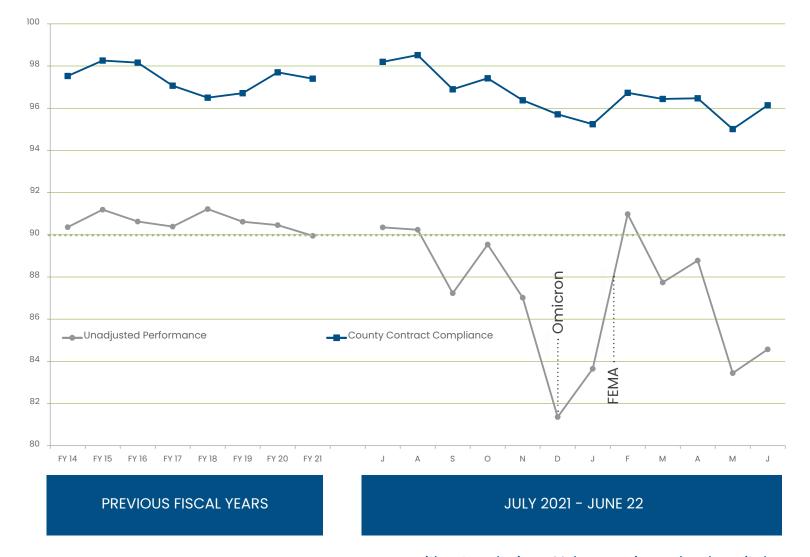




MECKLENBURG COUNTY POPULATION GROWTH

Mecklenburg County's population has grown 22% since 2010 and 911 call volume is rising close to prepandemic levels, making Medic's staffing deficits more challenging.





COMPLIANCE

COVID's impact on healthcare staffing, including EMS, is driving unprecedented challenges to accommodate demand for emergency services in the community. The result of this issue is evident in the above chart tracking response time compliance to high priority patients.

The top line of the chart reflects County Contract Compliance, which is a measure that excludes late arrivals during times of heavy call volume. The bottom line tracks Medic's Raw Compliance without exclusions. Volume swings, slow hospital turnaround times due to overcrowding and employees in quarantine due to infection were main factors of poor compliance early in the pandemic. As time progressed, the primary factor became staffing deficiencies.

As the recovery stage of the pandemic may last for years, Medic has taken numerous steps to meet this challenge head on and will continue investing in innovative ways to meet the needs of this community while stabilizing issues with staffing.

CHALLENGES

Medic ended FY '22 at a deficit of 66 full-time EMTs and Paramedics. This is coupled with a return to normal call volume, sicker than normal patients, employee quarantines and rampant misuse of the 911 system. Ultimately, the result is fatigued employees and struggling response times. These challenges are like many EMS agencies across the country, and it is projected to be years before the industry truly recovers. In the meantime, Medic proactively implemented several unique strategies to ensure system stabilization while also balancing employee and patient well-being.

At the onset of COVID-19, Medic began ramping up the use of a pre-existing Nurse Advice Line. Ambulance Strike Team support from the Federal Emergency Management Agency (FEMA) also provided some relief along with the intermittent implementation of Mandatory Overtime. More long-term solutions were found in the form of core system changes and a focus on recruitment and retention.

- Rideshare services are now offered to patients who call and do not require the services provided by an ambulance, as triaged by Medic Telecommunicators and affirmed by nurses in a dedicated Nurse Call Center.
- Extended response times for a select subset of low acuity calls, referred to as Sierra, was tested and successfully implemented with less than 1% of these calls resulting in a high-priority transport. A triage tool was also put into place for first responders to be able to check back into service if the patient remained stable upon EMT assessment on scene.

- The POINT Triage Protocol was developed to allow care providers to offer patients their recommendation to seek alternative transportation methods if deemed clinically appropriate following on scene assessment.
- Recruitment and retention incentives were offered to remain competitive in the market for new and existing patient-facing employees. Formal improvement project teams were also formed to evaluate strategies for improving employee appreciation, retention and recruitment for years to come.
- Medic began testing the use of Basic Life Support (BLS) resources (EMTs only) with specific subsets of calls instead of all Advanced Life Support (ALS) resources (Paramedic & EMT). If successful, BLS911 will preserve vital ALS resources for use on the highest priority calls..

383
Patients Diverted to Rideshare

8,936Sierra Responses 10/21-6/22

13

2,122
Patients Enrolled in POINT Triage
Protocol & Not Transported

62Average Basic
Life Support 911
Responses Per
Week

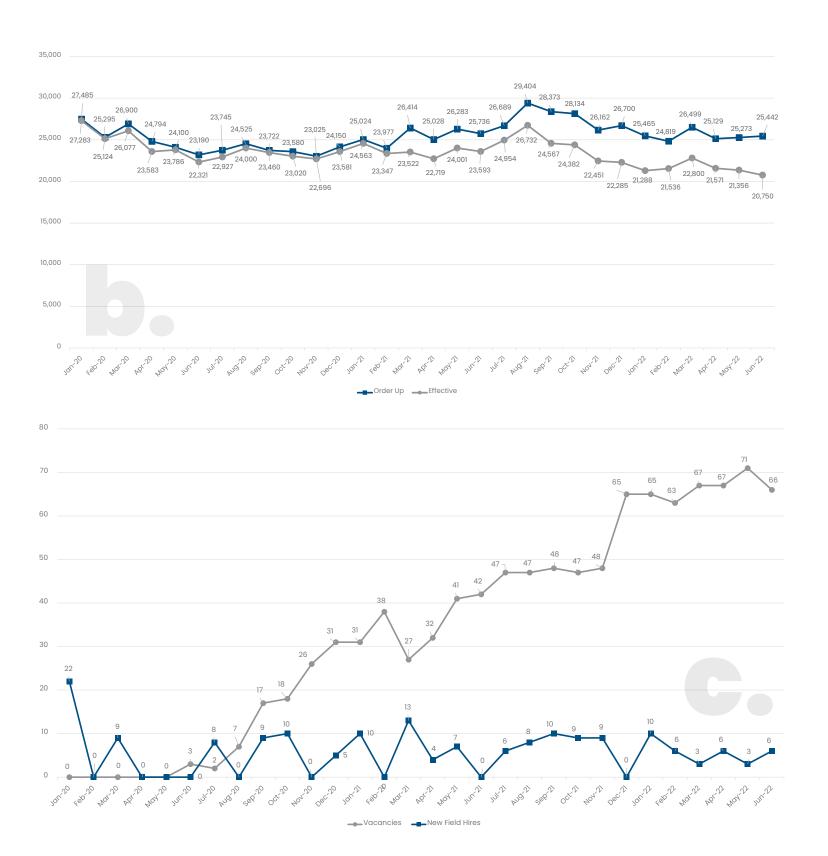
	FY 2017	FY 2022	% Change
Total Responses	146,652	161,123	10%
Cancelled Prior to Arrival	17,452	23,600	35%
Cancelled After Arrival	20,883	18,934	-9%
Patient Refusals	19,338	25,134	30%
Deceased On Arrival	789	1,127	43%
Total Transports	109,931	107,307	-2%
Non-Emergency	21,627	14,190	-34%
Non-Life Threatening	72,486	75,469	4%
Potent. Life-Threatening	10,711	10,866	1%
Life-Threatening	5,107	6,782	33%
Total 911 Transports	88,304	93,117	5%

RESPONSE & TRANSPORT BREAKDOWN 2017 VS. 2022 (CHART A)

As noted in the above chart, the number of Priority 1 patients increased by 33% and patients pronounced Deceased On Arrival increased 43% when comparing FY '17 to FY '22. While patients are getting sicker, partly due to COVID-19 and fear of accessing healthcare during the pandemic, Medic's staffing decreased by 19%. This perfect storm of circumstances is just one example of a "healthcare crisis" nationwide.

EFFECTIVE UNIT HOURS & STAFFING (CHART B + C)

Right: In the early months of 2021, you begin to see the gap between the number of hours needed on the schedule (Order Up) and the actual number of ambulance hours that Medic was able to put on the road (Effective). The reason for this is abundantly clear in the bottom right chart, which compares the number of full-time patient-facing vacancies to the number of new hires.









Communications Systems Technology Specialist Michael Desmond



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Executive Director JP Peterson, CMED Supervisor Rebecca Zamagni-Mander, EMT Anna Baldwin & Deputy Director Jeff Keith

PARAMEDICS OF THE YEAR

John Stroup and Michael Dudkowski brought home top honors during the 30th Annual Paramedic Competition hosted by the NC Office of EMS in May 2022. The duo were among 50 regional championship teams to compete in preliminaries and advanced among 6 regional teams who faced a difficult medical scenario to test their EMS skills. The victory was the second in a row for Stroup and Dudkowski, who plan to defend their title again in 2023.

NATIONAL EMERGENCY NUMBERS ASSOCIATION AWARD

Michael Desmond, Medic's
Communications Systems
Technology Specialist, was
recognized by NC's NENA (National
Emergency Numbers Association)
as the 2022 NC Technology
Specialist of the year in May 2022.
Michael was nominated by Medic,
the Charlotte-Mecklenburg Police
Department and the Charlotte Fire
Department for this prestigious
award, which is given annually to
a standout technology specialist
who supports the critical work of 911
communications in NC.

STARS OF LIFE

After two years of waiting, Medic's Stars of Life were finally able to travel and be recognized for this national EMS award from the American Ambulance Association in Washington DC this year!

EMS WEEK 2022

Medic employees were finally able to gather at full capacity and celebrate with food and laughs during this year's EMS Week celebration.

67%

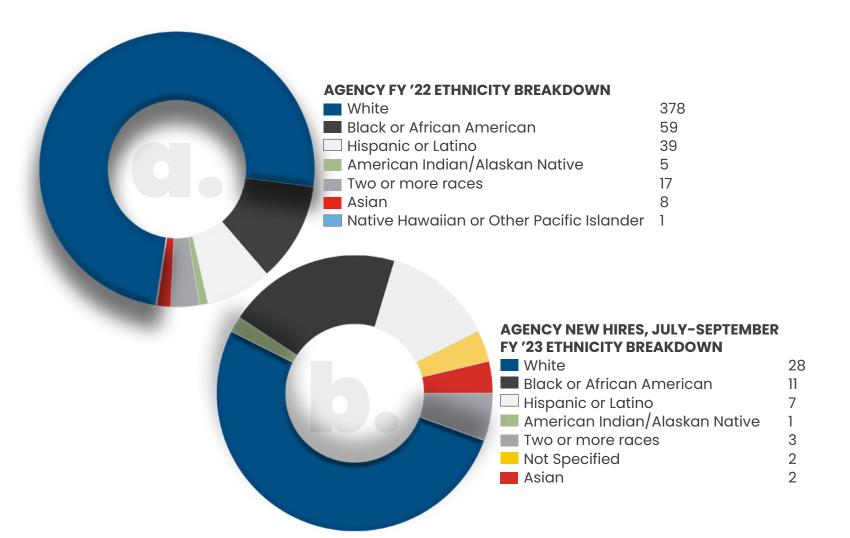
EMPLOYEE

SATISFACTION

PERCENTAGE OF

GOOD, VERY GOOD &

EXCELLENT



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DIVERSITY, EQUITY & INCLUSION IN THE WORKFORCE

As Medic's current demographic information shows above (*chart a.*), the Agency does not accurately reflect the community we serve.

Medic recognizes this as a critical area in need of improvement, and in recent years has been actively participating in Community Building Initiative's leadership programs, formed an employee-led Diversity Resource Group to provide internal Diversity, Equity & Inclusion (DEI) education and support, and has collaborated

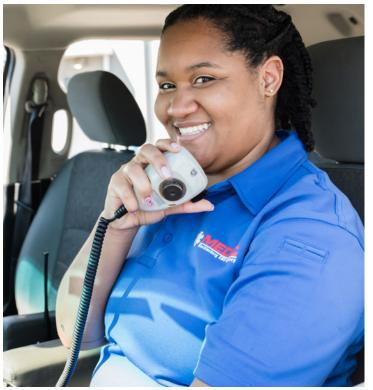
with fellow first responder partners to host Charlotte's annual Diversity, Equity & Inclusion Conference.

Medic has put DEI at the forefront for the future by including an on-boarding DEI workshop for new hires, providing ongoing annual DEI initiatives for leadership, and incorporating the principle in strategic objectives that guide the Agency over the next three years (more info included on page 35). As you see in the new hire ethnicity chart (chart b.) the aforementioned efforts and an increase in targeted recruitment is making positive impact.









A SUCCESSFUL SWITCHOVER FOR A CRITICAL 911 SYSTEM

In just three days, the entire 911 system in Mecklenburg County including Medic, the Charlotte Fire Department and Charlotte-Mecklenburg Police Department transitioned to a faster, IP-based system called ESINET. The network is shared across the entire state of North Carolina and allows the transfer of 911 calls to any agency in the system. After more than 1,000 test calls, and despite impending tornadoes during go-live, the transition was a success and went live in July, 2022.

TELEHEALTH

Prior to the start of the pandemic, Medic committed to participating in the Centers for Medicare and Medicaid Services pilot telehealth program called ET3 (Emergency Triage, Treat, and Transport). Following lengthy COVID-fueled delays, Medic launched an initial test in December, 2021 in partnership with Atrium Health and Novant Health. The aim was to safely identify low-acuity Medicare patients who would not benefit from a visit to the **Emergency Department and instead** facilitate a telehealth visit with a qualified healthcare professional and then direct them to the most appropriate resource for follow up care.

Early testing proved that the process could safely work and benefit patients, though the enrollment of qualified Medicare patients was extremely low. Medic subsequently chose to withdraw from the program and refocus efforts on an expanded approach that includes all patients regardless of their insurance affiliation. The revised program is slated to re-launch later in FY '23.

TEMPUS MONITORS

Medic successfully deployed new
Philips Tempus cardiac monitors in all
ambulances this year, replacing the
previous monitors that were at end of life.
The monitors are equipped with stateof-the-art features such as improved
patient monitoring technology and
enhanced data sharing with hospital
emergency departments. The monitors
also have advanced capabilities such
as ultrasounds and video conferencing,
ensuring Medic's ability to progress its
clinical practices far into the future.

The transition was a massive undertaking that included five separate project teams collaborating for over a year focused on critical details such as software configuration, training of employees and first responder partners, and the complex logistical planning required to manage system wide deployment during a single shift change.

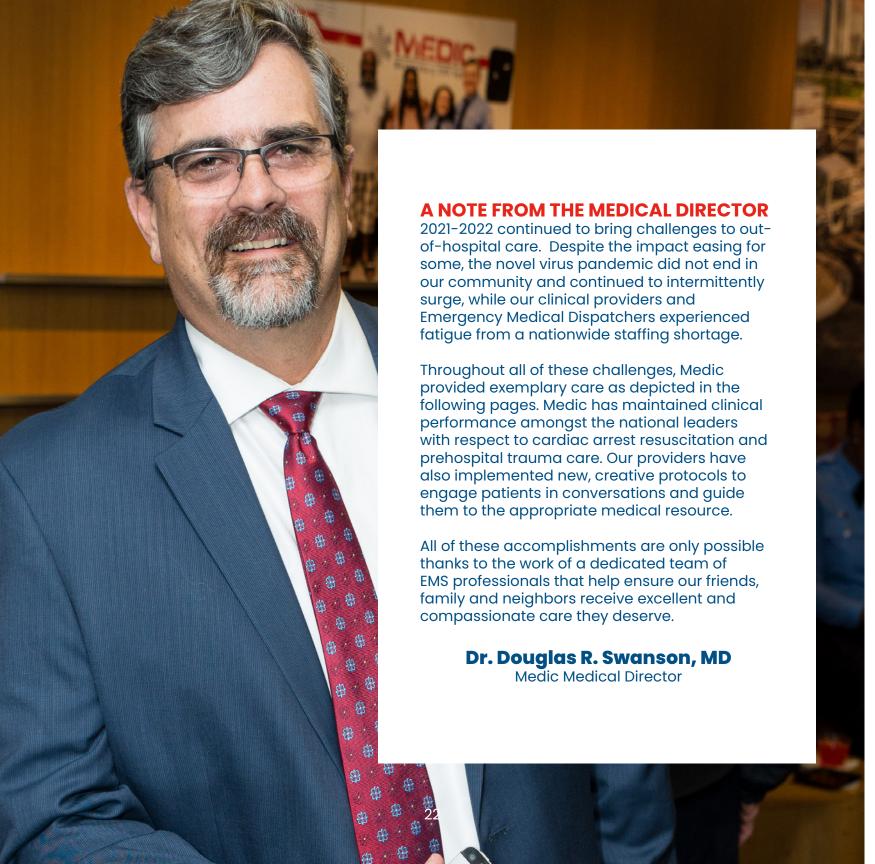
Medic's efforts to decrease idle time saved 22,719 gallons of fuel and reduced CO2 emissions by 250 tons.



MEDIC Mecklenburg EMS Agen

FRASTER SERT BEI

A Profits company



RANDOMIZED CLUSTER EVALUATION OF CARDIAC ARREST SYSTEMS (RACE-CARS)

Medic is actively participating in a new Duke Clinical Research Institute trial called RACE-CARS.

The five-year trial will test the implementation of community interventions to improve survival for cardiac arrests. In addition to addressing this public health issue, the trial is the first U.S. fully "registry-based" trial, an approach that has been used when conducting efficient clinical trials in Europe.

Medic has supported the work of this trial by participating in national data sourcing by contributing to the CARES (Cardiac Arrest Registry to Enhance Survival) Registry and sharing the Agency's experiences in community and provider education.

The efforts of this trial moving forward will focus on the first four links in the chain of survival, prior to EMS arrival on scene. Primary intervention areas being studied by this trial include dispatch recognition of cardiac arrest and CPR instruction, community CPR training, early defibrillation and strategic placement of AEDs.

Since deployment of the Community Narcan Program in September 2021 with the Mecklenburg County Health Department, Medic providers have distributed over 500 Narcan kits directly to patients at high risk of narcotic overdose including those suffering from addiction and/or chronic pain requiring prescription narcotics.



RESEARCH GRANTS

Medic is a leader in EMS pediatric research, currently participating or working towards three grants that could improve clinical outcomes for children nationwide.

PediDOSE; Pediatric Dose Optimization for Seizures in EMS; Texas Children's Hospital; PECARN

Since beginning pediatric seizure research last fiscal year, Medic launched a community consultation and public disclosure phase in April 2022. In October 2022, pediatric seizure patients will be enrolled over the next five years, which means they will receive an updated dosing protocol to investigate if this administration will reduce the length of time a patient is actively seizing.

TRECS; Treating Respiratory Emergencies in Children; Oregon Health Sciences University Portland; National Heart, Lung, and Blood Institute.

Medic is currently in pre-contract negotiations with the FDA for approval to receive a \$72,500 grant to research alternative treatments for pediatric asthma patients. Previous research from one geographic area found that the updated treatment protocol may reduce the rate of hospitalization and the need for critical care admissions.

PediPART; Pediatric Prehospital Airway Resuscitation Trial; Ohio State; PECARN

In October 2022 Medic will participate in a grant application for PediPART, a trial to determine the best paramedic strategies for managing the airway in critically ill children. If awarded, the grant will total \$504,000 over six years.

74%

PATIENTS IN CARDIAC ARREST WHO ACHIEVE ROSC*

GOAL OF ≥ 40%:

MET

*Return of Spontaneous Circulation

83:45

HEART ATTACK (STEMI)
TIME FROM RECEIVED 911
CALL TO CATH LAB
INTERVENTION

GOAL OF ≤ 90:00:

MET

78%

HEART ATTACK (STEMI)
PREHOSPITAL
DETERMINATION

GOAL OF ≥ 85%:

NOT MET

Medic is the only secondary Public Safety
Answering Point (PSAP) for medical calls in North
Carolina. In Mecklenburg County, instead of a
police department dispatching an ambulance, the
caller is transferred to Medic's trained Emergency
Medical Dispatchers who send appropriate
resources and provides life-saving instructions.



FY '22 MODIFIED ACCRUAL FINANCIAL STATEMENTS ADJUSTED FOR ENCUMBRANCES

	Adopted Budget	Actual
Revenue		
User Fees	\$42,636,927	\$43,274,697
County Funding	\$21,837,000	\$21,467,605
Medicaid Cost Report	\$5,186,927	\$5,116,245
Debt Set-off Revenue	\$2,157,795	\$2,241,399
Encumbrances	\$2,738,878	\$2,738,878
Grants / Other Revenue	\$2,570,197	\$2,594,290
911 Surcharge Revenue	\$289,328	\$289,328
Total Revenue	\$77,417,052	\$77,722,441
Expenditures		
Labor and Labor Related	\$53,905,210	\$52,621,531
Operating	\$13,596,900	\$14,253,122
Capital	\$9,914,942	\$9,365,466
Total Expenditures	\$77,417,052	\$76,240,119

Medic wrote off \$4,783,705.20 in charges in FY '22 for patients who qualified for charity.

did you know...

Medic is a Joint Government

Agency, not a for-profit entity. The

Agency's budget is funded by feesfor-service from patients (65%), county subsidy (28%) and a state 911 surcharge and grant funding

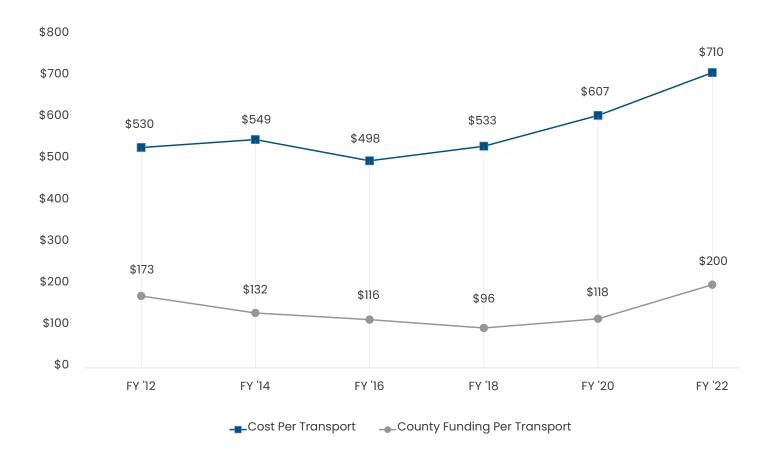
services provided to the community free of charge (such as patients being treated on scene and not transported) and also patients'

inability to pay.

(7%). Subsidy is necessary due to reimbursement rates not covering the actual cost of an ambulance transport, non-reimbursable

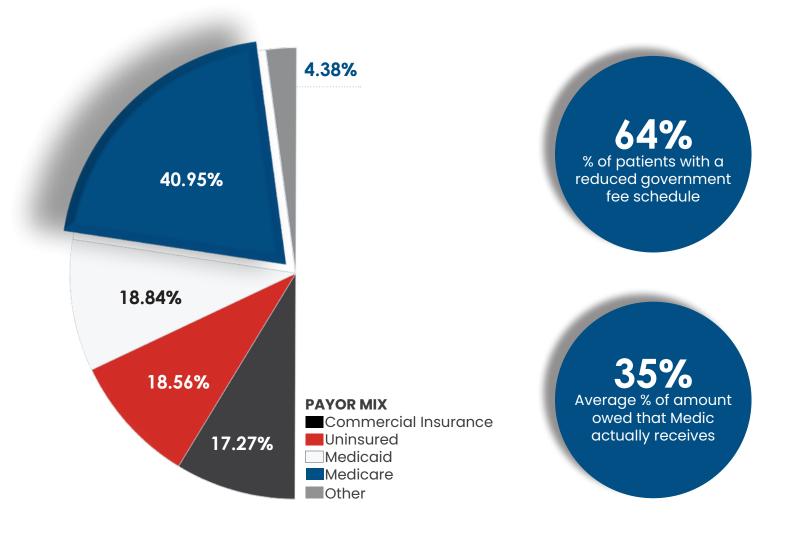
COST PER TRANSPORT

This top line of this chart shows the amount of money it costs to operate the Agency on a per transport basis. The second line reflects the cost to County tax payers (subsidy) on a per transport basis. Despite increased costs driven by rising inflation and labor expenses, Medic continued to rank among the lowest cost EMS systems in the state of North Carolina (16th lowest out of 87 agencies) according to the most recently available cost report data from the NC Centers for Medicare and Medicaid Services.



REIMBURSEMENT

Contracted reimbursement for EMS providers remains inadequate compared to the cost of delivering service. With Medicare and Medicaid patients representing more than half of Medic's patient base, coupled with an uninsured rate of 18% among patients, the Agency could not financially survive and provide outstanding care without the subsidization provided by Mecklenburg County.



our patients

PATIENT SATISFACTION

The Agency contracts with a third party vendor to gather data from randomly selected patients about their experience with Medic's care providers. Below are the results for FY '22, which show that 95% of surveyed patients rated their experience as **good, very good** or **excellent**.

63%Excellent

21% Very Good

11% Good



Sometimes our own first responder family members are our patients. In February 2022, Mecklenburg County Sheriff's Deputy **Dijon Whyms** suffered five gunshot wounds on-duty. Paramedic **Madison Kiger** and EMT **Jackson Knight** provided life-saving medical care and were able to reunite with Deputy Whyms, who is doing well on his journey to recovery.



Mr. George Roth called 911 complaining of chest pain on February 27, 2022. Paramedic Barry Nixon and EMT Jerome Taylor assessed Mr. Roth and began treating him for cardiac issues. Mr. Roth's condition began to deteriorate and went into cardiac arrest. After just two minutes of CPR, Mr. Roth became conscious and alert. He was able to meet Barry and Jerome, along with his wife Donna just one month after his life changing event!

1,222 patients contacted Medic unprompted to commend their care providers in FY '22

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ANIMAL ADVOCACY

Medic employees from frontline to administration volunteered to visit the Charlotte-Mecklenburg Animal Shelter for photo opportunities to promote adoption efforts in the community. EMT **Shannon Ballard** couldn't leave without adopting a new family member: a puppy named Chance.

CAMP IGNITE

Medic care providers were excited to participate in Charlotte Fire Department's Camp Ignite, a hands-on camp that focuses on the development of teamwork, self-confidence, and leadership skills in young women alongside female first responders. Medic is looking forward to resurrecting the in-house EMS focused Explorer's program in FY '23.

NINE LIVES

A four-legged Charlotte resident kept one of its nine lives after a house fire in May. Once oxygen therapy was administered by Paramedic **Chris Noll**, the fortunate feline survived and the duo were featured in national news coverage for weeks.

Approximately 64% of Medic's cardiac arrest patients received bystander CPR in FY '22.

Bystander CPR is a huge focus of Medic's community engagement efforts, check out www.KeepTheBeatMeck.com for more info.





The following are Strategic Objectives outlined in Medic's Strategic Business Plan that will guide Medic's direction over the next three years.

1. Implement a plan with clear factors that influence workplace safety and employee health to drive improvement Testing of automated stretchers is slated to begin August 2022. Other future work focuses on understanding critical safety and mental health-related needs of employees.

2. Collaborate with Mecklenburg County to implement a competitive total rewards strategy to attract and retain high caliber personnel and ultimately recover Medic's staffing levels.

Retention and recruitment bonuses were instated in FY '22 along with significantly improved starting wages for EMTs and Paramedics effective FY '23. Additional work is underway that continues to define Medic as an employer of choice.

3. Develop and implement Medic's Diversity, Equity & Inclusion vision, including alignment with County-led DEI initiatives.

This goal is focused on refining the investment and activity around DEI

initiatives. Proposed work includes reducing barriers to application, hire and success including internal policies, procedures that support inclusion and dismantle structural barriers.

4. Implement sustainable interventions that reduce Medic's environmental impact.

Medic will address opportunities to reduce fossil fuel dependency, continue to reduce ambulance emissions through new technologies and promote environmentally-conscious behaviors among our workforce.

5. Establish a response configuration that meets patients' care and transport needs by optimizing EMS system resources, response times, and response modes.

This goal completely overhauls Medic's response configuration to address the changes in patient population and community need. The update will establish a response system with consideration to patient care, transport demands and EMS resources.

eddership ds of 6.30.22



Sid Fletcher, NH - Chair



Michael Bryant, MC



David Callaway, AH



Saad Ehtisham, NH



Joy Greear, NH



Gary Little, AH



Robyn Neely, AH

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JP Peterson - M
Doug Swanson, MD - M

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Non-Voting Members

Shelly Forward - M JP Peterson - M

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Shelly Forward, Finance Director JP Peterson, Executive Director Doug Swanson, MD, Medical Director

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Fire Dept

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LEGEND Atrium Health - AH Mecklenburg County - MC Mecklenburg EMS Agency - M Novant Health - NH











