



# Chest Pain Accreditation

July 20, 2016

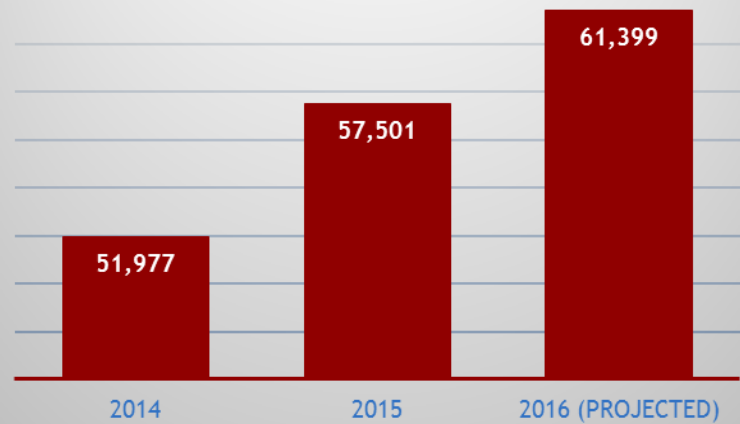




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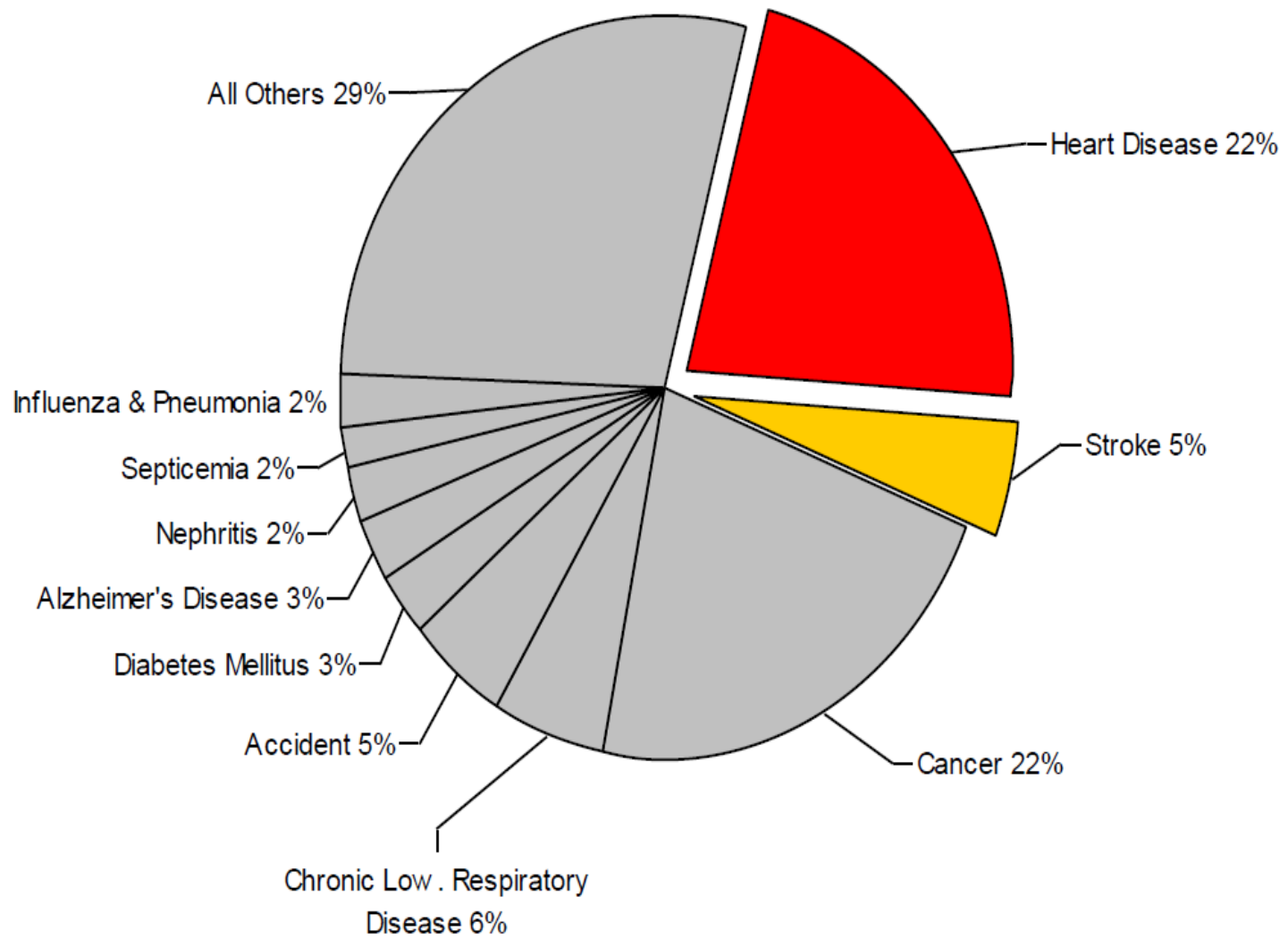
- 36 Progressive Care Beds
- 14 ICU Beds
  - \* 7 additional beds to open in October 2016
- 11 Labor & Delivery
- 10 Post Partum Beds
- 5 Clinical Decision Unit Beds
- 30 Emergency Department Beds

### Emergency Department Visits



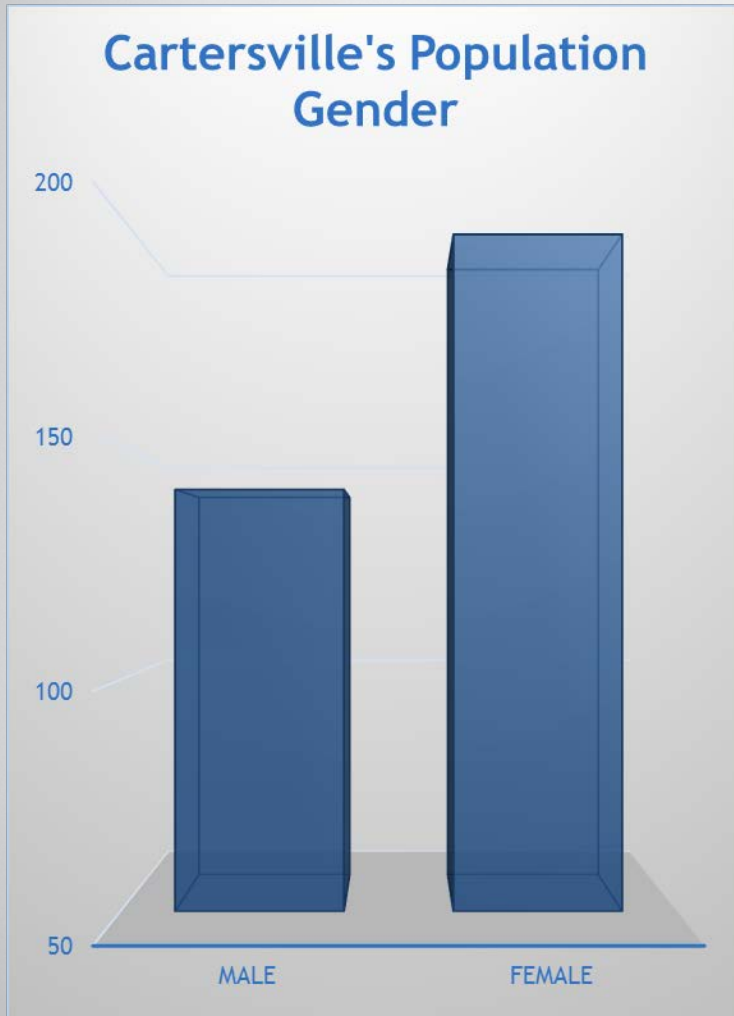


# Why focus on hearts in Georgia?



American Heart Association/American Stroke Association 2013. Retrieved from [https://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm\\_472840.pdf](https://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_472840.pdf)

# Cartersville's Customer Population

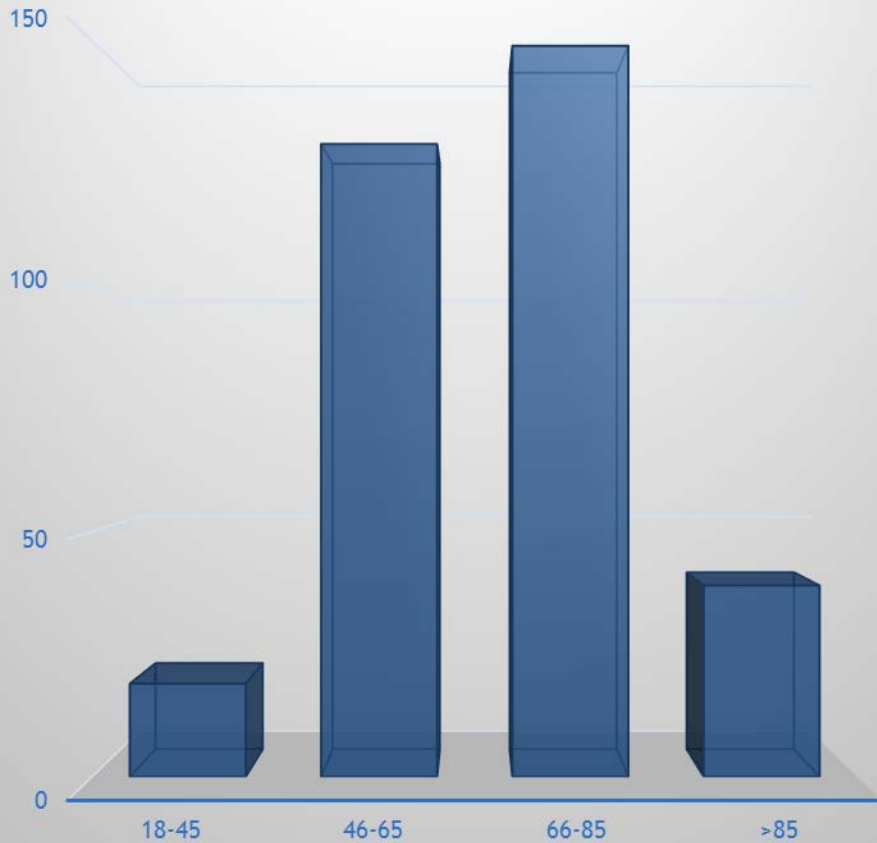


## AHA/ASA Statistics 2014

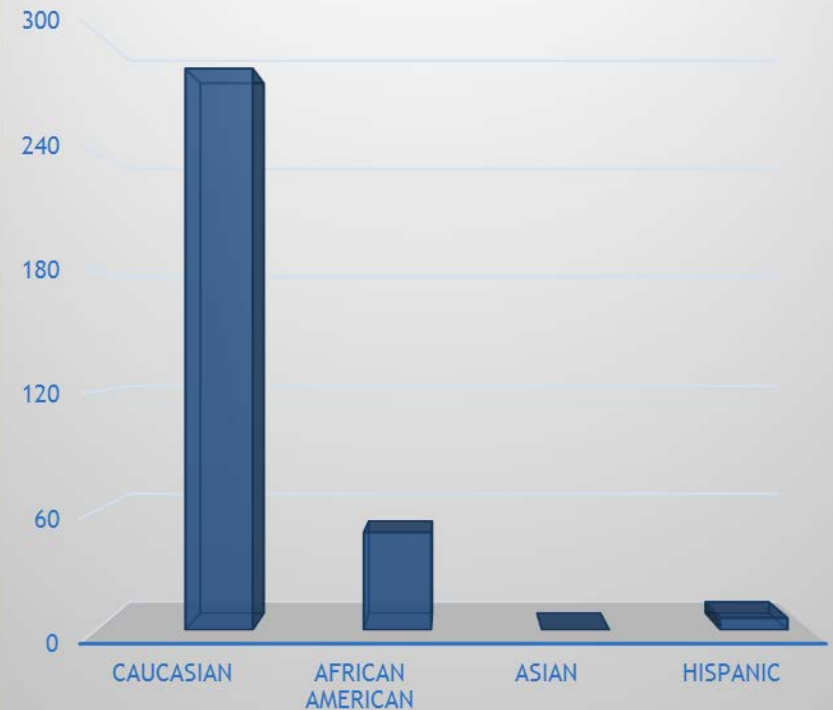
- "Heart disease is the number 1 killer in women, taking more than all forms of cancer combined"
- Heart Disease is the No. 1 cause of death in the U.S.
- Cardiovascular disease claims more than 17.3 million deaths per year
- Out of every 7 deaths 1 is from heart disease

# Cartersville's Customer Population

## Cartersville's Population Age



## Cartersville's Ethnicity





# Chest Pain Clinical Team

## Mission, Goals and Objectives

- Improve consistency and predictability of clinical outcomes.
- Promote outcomes comparable or superior to industry benchmarks.
- Enhance patient safety.
- Reduce length of stays.
- Reduce resource utilization and operating costs.
- Meet customer expectations, exceeding them when possible.
- Sustain improvement while continuing to elevate our level of evidence based care.



- **Mission:**

Consistent with the HCA mission of: *Above all else we are committed to the care and improvement of human life*; Cartersville Medical Center and its Chest Pain Center are committed to providing safe, quality care of Acute Coronary Syndrome (ACS) patients from point of first medical contact through discharge. We are committed to the education of staff that provides this care and we are committed to the education of these patients and their families, so that upon discharge, they have the information and resources they need to continue with their plan of care. We are also committed to the promotion of community awareness of Early Heart Attack Care (EHAC). We are committed to fulfilling our mission through the use of evidence based practice, the monitoring of key quality outcome indicators, education and efficient utilization of resources.





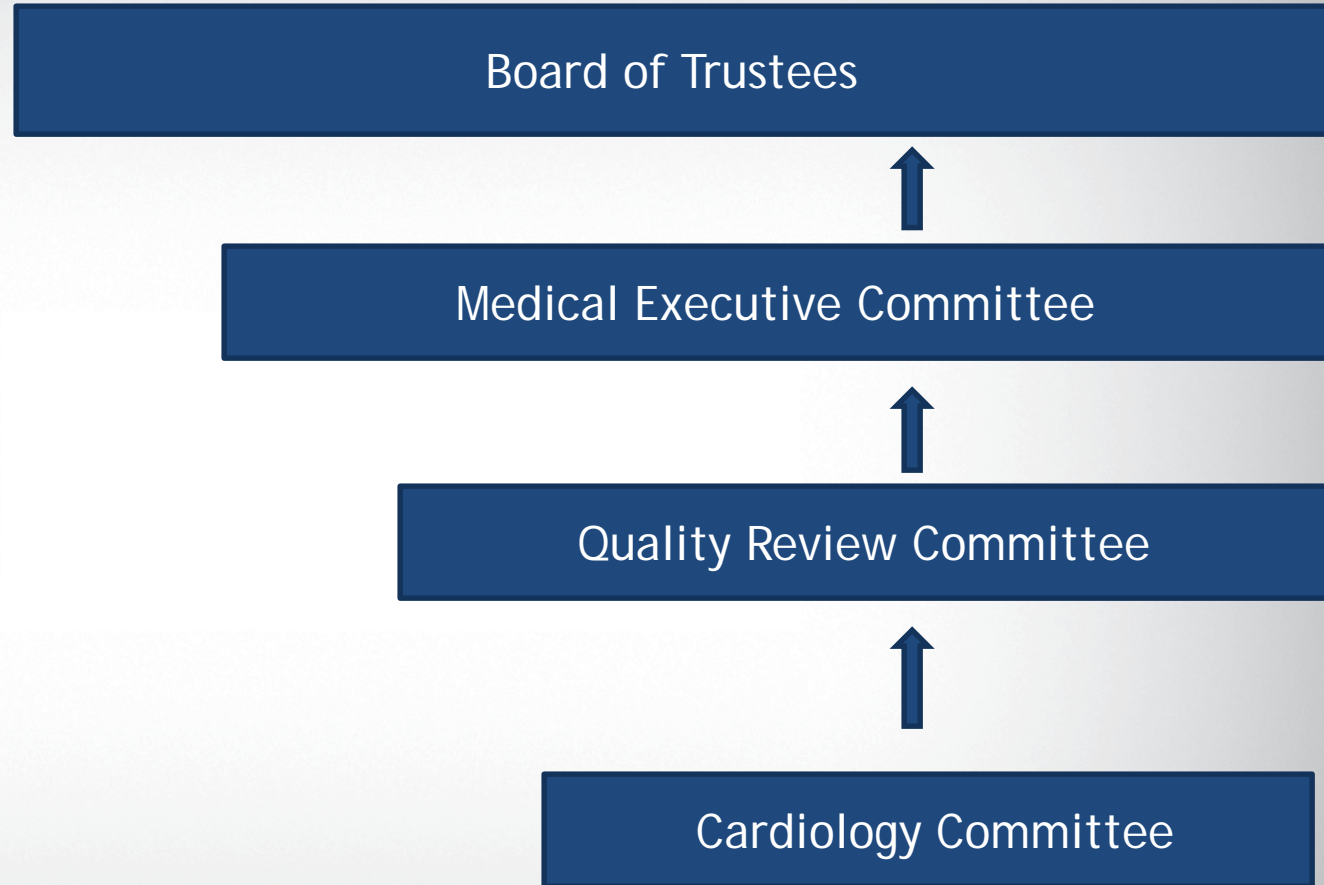
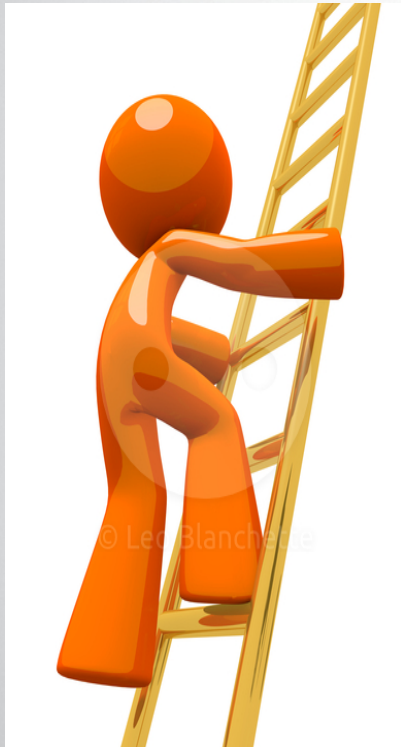
# Cardiac Clinical Team Members

RESPONSIBILITY	NAME	DEPARTMENT/TITLE	
Cardiology Medical Director	Dr. Maxwell Prempeh	Cardiology Medical Director, Interventional Cardiologist	
	Dr. Ankit Patel	Interventional Cardiologist	
	Dr. Ramamurthy	Cardiologist	
Team Leaders	Leah Hite, RN	Director of Cardiovascular Services	
	Jan Hartness, RN	Cardiovascular Service Line Coordinator	
	Beth Perrett, RN	Cardiac Cath Lab Charge Nurse	
	Dr. Carlo Oller	Emergency Medicine Director	
Physician Members	Dr. Titto Britto	Hospitalist Services Medical Director	
	Dr. Lakshman Dinavahi	Hospitalist Services, Assistant Director	
	Lori Rakes	Chief Operating Officer	
Administration Sponsor	Heather Clement, RN	ED Nursing Director	
Stroke Unit Directors	Teresa Stone, RN	Critical Care Services Nursing Director	
	Jan Tidwell, RN	Assistant Administrator, ACNO, ECO	
Members	Ed Moyer, RN	Chief Nursing Officer	
	Michelle Little	Bartow County Dispatch	
	Brandon Duncan	Bartow EMS Director	
	Gaylon Matthews	Metro EMS Director	
	Tommy Kimbrough	Imaging Director	
	Mark Orsborn	Laboratory Directory	
	Toni Strawn	Staff Development Director	
	Valerie Wagner	Rehabilitation Director	
	Eejay Enekwa	Pharmacy Clinical Manager	
	Phoebe Stieber	VP, Quality Resources	





# Chest Pain Clinical Team Reporting Structure



# Cardiovascular Quality Dashboard

Cardiovascular	Benchmarks	1st Qtr 2014	2nd Qtr 2014	3rd Qtr 2014	4th Qtr 2014	2014	1st Qtr 2015	2nd Qtr 2015	3rd Qtr 2015	4th Qtr 2015	2015	1st Qtr 2016	2nd Qtr 2016	3rd Qtr 2016	4th Qtr 2016	2016
<b>STEMI/NSTEMI</b>	<b>CMS</b>															
(AMI 1) Aspirin at Arrival	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				
(AMI 2) Aspirin Prescribed at Discharge	1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%				
(AMI 3) ACEI or ARB for LVSD	99.9	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				
(AMI 5) Beta-Blocker Prescribed at Discharge	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				
(AMI 7) Median Time to Fibrinolysis	100	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA				
(AMI 7a) Fibrinolytic Therapy Received within 30 min. of Hospital Arrival	100	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA				
(AMI 8) Median Time to Primary PCI	<90 min	52.5 min	68 min	50.5	51	56	52 min	58	55	54.3	52 min	61 min				
(AMI 8a) Primary PCI Received Within 90 minutes of Hospital Arrival	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				
(AMI 10) Statin Prescribed at Discharge	100%	97%	100%	100%	100%	99%	100%	100%	100%	100%	100%	100%				
Smoking Cessation Counseling	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				



Cardiovascular	Benchmarks	1st Qtr 2014	2nd Qtr 2014	3rd Qtr 2014	4th Qtr 2014	2014	1st Qtr 2015	2nd Qtr 2015	3rd Qtr 2015	4th Qtr 2015	2015	1st Qtr 2016	2nd Qtr 2016	3rd Qtr 2016	4th Qtr 2016	2016
Number of Pacemakers	NA	NA	NA	NA	NA	NA	2	3	3	6	14	6				
Number of Stress Test	246	320	308	331	300	1259	326	342	371	282	1321	325				
Cath Procedures performed in IR Room		NA	NA	NA	NA	NA	11	6	8	3	28	5				
Number of Echocardiograms	712	748	736	762	687	2933	685	803	744	827	3059	902				
Notification to Arrival Time by Cath Lab Team	30 minutes	N/A	N/A	NA	NA	NA	28 min	NA	NA	26 min	27 min	NA				
ED Notification to Patient Arrival to Cath Lab	10 minutes	0	0	4	7	5.5	5 min	4 min	NA	4.5 min	4.5 min	NA				
MI Line Called to Patient Arrival In Cath Lab	30 minutes	27 min	36 min	35 min	24	30.5	27	23.5	21	28	25	NA				
Average Time of Patient Arrival in Cath Lab to Case Start	14 minutes	7 min	8 min	7 min	7 min	7 min	10 min	9 min	12 min	7 min	9 min	NA				
Door to EKG Time - Registry Data	10 minutes CMS goal 3 min.	8.3 min	9 min	10 min	7.2 min	8.7 min	10 min	5.8 min	6.3 min	2.7 min	6.2 min	9.4 min				
Door to EKG Time - CMS (Random sampling that can include any patient that receives and EKG while in the ED)	CMS 3 min.	8 min	9 min	10.5 min	21.5 min	12 min	16 min	8 min	3.5 min	9 min	9 min	15 min				
STEMI Door to Reperfusion <i>with Outliers</i>	60 min	52 min	68 min	50.5 min	51 min	55 min	54.2	60.8 min	56.8	51.4	55 min	61 min				
STEMI Door to Reperfusion (Outliers Removed)	60 minutes						47 min	50.1	53.5	45.4	48.2	53 min				
Average LOS (median)	2	N/A	N/A	NA	NA	NA	3 days	2.5 days	3 days	2.5 days	2.5 days	3 days				
In-house Mortality <i>(SALVAGE Cases)</i>		N/A	N/A	NA	NA	NA	3	1	3 (4) deaths	1	9	2				
Cath Lab Mortality <i>(death in CCL)</i>		0	1	0	1	2	1	0	0	0	1	1				
Mode of Arrival	Primary	POV	POV	EMS	EMS-8 POV-6	NA	EMS-8 POV-10	EMS-8 POV-7	EMS-1 POV-8	EMS-12 POV-6	EMS-29 POV-31	EMS-7 POV-13				

# Education of Community

- Angioscreens
- Diabetes Support Groups
- Radio Spots
- Georgia Power Health Fair
- Heart Month Community Activities
- Bartow County Safety Fair
- Hospital-wide Safety Fair
- Women's Expo
- Relay for Life
- Multiple Large Industrial Community Health Fairs





# Bartow Business Women's Expo





“Empowering others with knowledge to take control of their health, is a privilege any healthcare professional can give their community.”



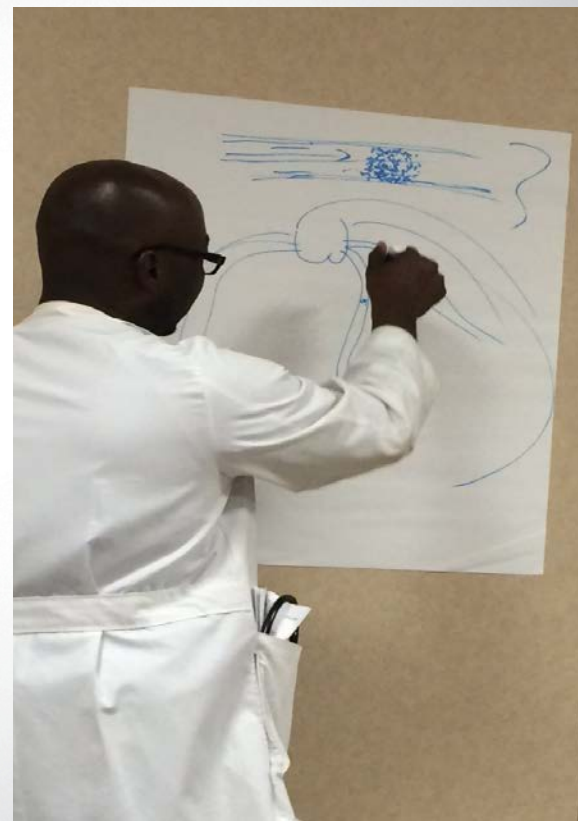


## Interactive stations were available after Dr. Prempeh's presentation that took a the visitor from initial pain onset through cardiac rehabilitation

- What to Expect Stations: EMS, ED (hands-only CPR), Cath Lab, Cardiac Rehabilitation
- Education Shared/Discussed: EHAC, hands-only CPR, signs and symptoms of chest pain (gender specific), the importance of calling 911, heart healthy diet, knowing your numbers, services offered at CMC, etc..

# Education of Hospital Staff

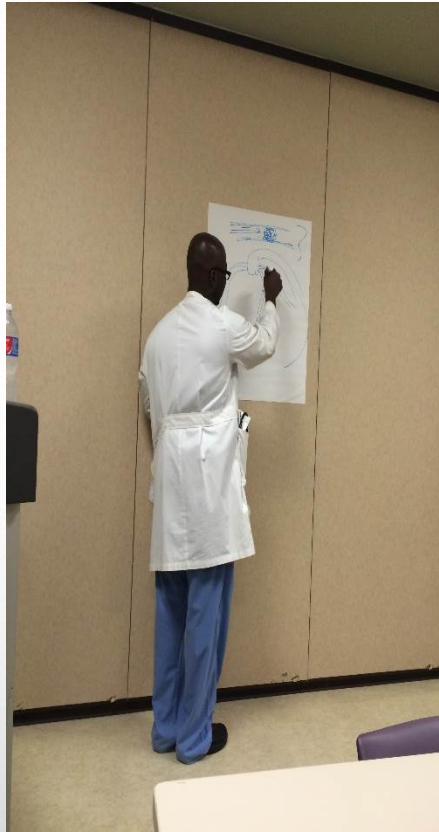
- Starts with “New Hire Orientation”
- Annual Cardiac Symposium
- Cardiology/CPC Meetings -Qtr
- Strategic Planning Meetings -Qtr
- Staff Meetings
- STEMI Review Meetings
- Hospitalists Meetings
- Emergency Department Meetings
- Ongoing Education:
  - Healthstream courses
  - ACLS courses
  - Sullivan Courses
- Competency Evaluation
  - Equipment
  - Medication Administration
  - Mock Codes





# Education

Elevate Skills and Knowledge



Celebrate Accomplishments




# EMS Education

- STEMI Review Bi-Weekly Meetings
- &
- EMS Quarterly Meetings
  - Case Studies presented
  - New evidence-based standards discussed/communicated
  - Identified opportunities
  - Facility Updates
  - Feedback provided for STEMI/ACS
  - Physician driven education
- EMS Annual Summit


November 5, 2015  
Clarence Brown Conference Center  
Etowah Ballroom

## 2015 EMS Summit



Sponsored by Cartersville Medical Center

<p><b>AGENDA</b></p> <p>8 am-8:30 am Registration and Continental Breakfast</p> <p>8:30 am-9:00 am Welcome "Thank You, Eye Trauma and Other Eye Injuries" Doris L. Goss, M.D., MEd. Ophthalmologist, Northside Eye Institute, Marietta, GA</p> <p>9:45 am-10:45 am "Evangelical Burn Cop" Lance A. Cox, FICS, MEd, MEd, EMT Joseph M. Bell Burn Center, Atlanta, GA</p> <p>10:45 AM-11:00 AM Lunch for EMS/EMT</p> <p>11:00 am-12:00 pm "EMR and Evidence Based Medicine: Yesterday, Today, and Tomorrow: Where Are We Going?" John Leland, D.O., MEd</p> <p>12:00 pm-12:30 pm Lunch and Exhibit Time / CHS Helicopter Fly-in</p> <p>12:30 pm-1:30pm "Removal of EMS and Trenches Region 3 Update" Daryl Pinner, M.D., MEd. GA Department of Public Health</p> <p>1:30 pm-2:00 pm "News of the Emergency Pediatric Cardiology Patient" Dennis Johnson, M.D., Pediatric Cardiologist Children's Hospital of Orange</p> <p>2:00 pm-2:45 pm "2014 - The Year Shiba Landed in the US?" Dori Thompson, VP and CEO, Phoenix Air Service, Inc. Vance Perkins, Sr., CEO, Phoenix Air Service, Inc.</p> <p>2:45 pm-3:45 pm "Current Trends in Alcohol Usage and Other Issues affecting EMS and EMT" Caryn Mack, MD, MEd, MEd, MEd, MEd, MEd Barlow County Sheriff's Office</p> <p>3:45 pm-4:45 pm Official EMS Welcome, Small Talk Time Etowah County EMS/TV Office</p> <p>4:45 pm-6:00 pm Door Prize and Pick-Up EMS Certificates</p>	<p><b>CONFERENCE FEE</b></p> <p>\$100 Early Bird Online or Call Center Registration \$150 Onsite Registration Includes both-day conference, CEU/EMS credit, books and t-shirt. meals and alcohol</p> <p><b>CONTINUING EDUCATION</b></p> <p>This summit has been authorized for the Emergency Nurses Association (ENA) Emergency Nurses Association. It is awarded an approval of continuing nursing education by the American Council on Education (ACEC).</p> <p>7 CEU Credits Available - Google Department of Health, Page 11 EMS</p> <p><b>EXHIBITORS</b></p> <p>All Meditech David Bull Medical Ocala Institute of Atlanta ChargerLife Force Florida Department of Public Health EMS OccuMed Safety Northside Patient Center Lantern Medical Labtek of Georgia Life Guard Associates Plymouth Group Innovar EMS Zell Force Zell Medical</p>
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**CARTERSVILLE MEDICAL CENTER**

Register today online at [CartersvilleMedical.com](http://CartersvilleMedical.com) or call MedLine at 800.242.5662.



# EMS





# A Continuum of Care for Cardiac Patients



Education  
Primary and Secondary Prevention

Patients and Families

Community

# Education of Patients

Education Packet given to Patient/Family Member upon admission to hospital

Going Home Packet is initiated immediately post procedure in Cath Lab, by the Cath Lab Team, and reviewed throughout patient's stay

## Includes:

- Signs and Symptoms of chest pain
  - EHAC
  - How to activate EMS
  - Sight Care
- Importance of follow-up care
  - Medication Education
  - Personal Risk Factors
  - Lifestyle Risk Factors
- Age and Family History Risk Factors
- Healthy Eating Habits/Diet Plans
  - Hands-only CPR



# Cardiac Rehabilitation



- Initial consult is free of charge
- Offers dietary teaching
- Community resources available
- Education covering overall cardiac health
- Initialized monitored exercise program



# Future Plans

- Continuous improvement in patient outcomes and evidence based quality care
  - Teambuilding throughout facility to promote positive cultural change to the benefit of our patients and colleagues
  - Continue teambuilding with EMS Providers
  - Expand community outreach education
  - Continued vigilance of opportunities for the improvement of standards of care
  - Expansion of cardiovascular services offered
- Additional 7 ICU beds currently under construction projected to open Oct. 2016





# Performance Improvement Models Utilized



**F:** focus on a process to improve

**O:** organize a team that knows the process

**C:** clarify understanding of the process

**U:** understand the process variation

**S:** select a process improvement

# I. PI Initiative: ECG to Read within 10 min for Inpatient Population

Historically, we found a lack of inconsistent documented read time for patients with sudden onset chest pain in an inpatient setting

## Goal

- Goal is to read sudden onset chest pain ECGs within 10 minutes to determine if they are negative or positive for a STEMI

## Questions Asked

- Do all ECG machines transmit into MUSE?
- Physicians have access to MUSE?
- Physicians know how to utilize the technology?
- Is additional software required?



# PI Initiative Continued

## Plan

- Cardiovascular PACs Specialist
- Contact all hospitalist for access and education
- Educate on new onset chest pain ECG read within 10 minutes
- Decision Tree for nursing staff
  - Hospitalist assigned to case
  - Hospitalist on call
- ECG Stamps
- Unit staff meetings

## Act

- Continue to monitor and provide feedback during Cardiology Meetings

# II. PI Initiative: ECG to Read within 10 min of Arrival for ED Population

## Goal

- Read ECGs within 10 minutes of patient arrival by EMS or private vehicle

## Plan

- Observe current process for improvement opportunities
- Obtained feedback from staff
  - What works about this process?
  - What would make this process better?
  - What does not work?



# PI Initiative Continued

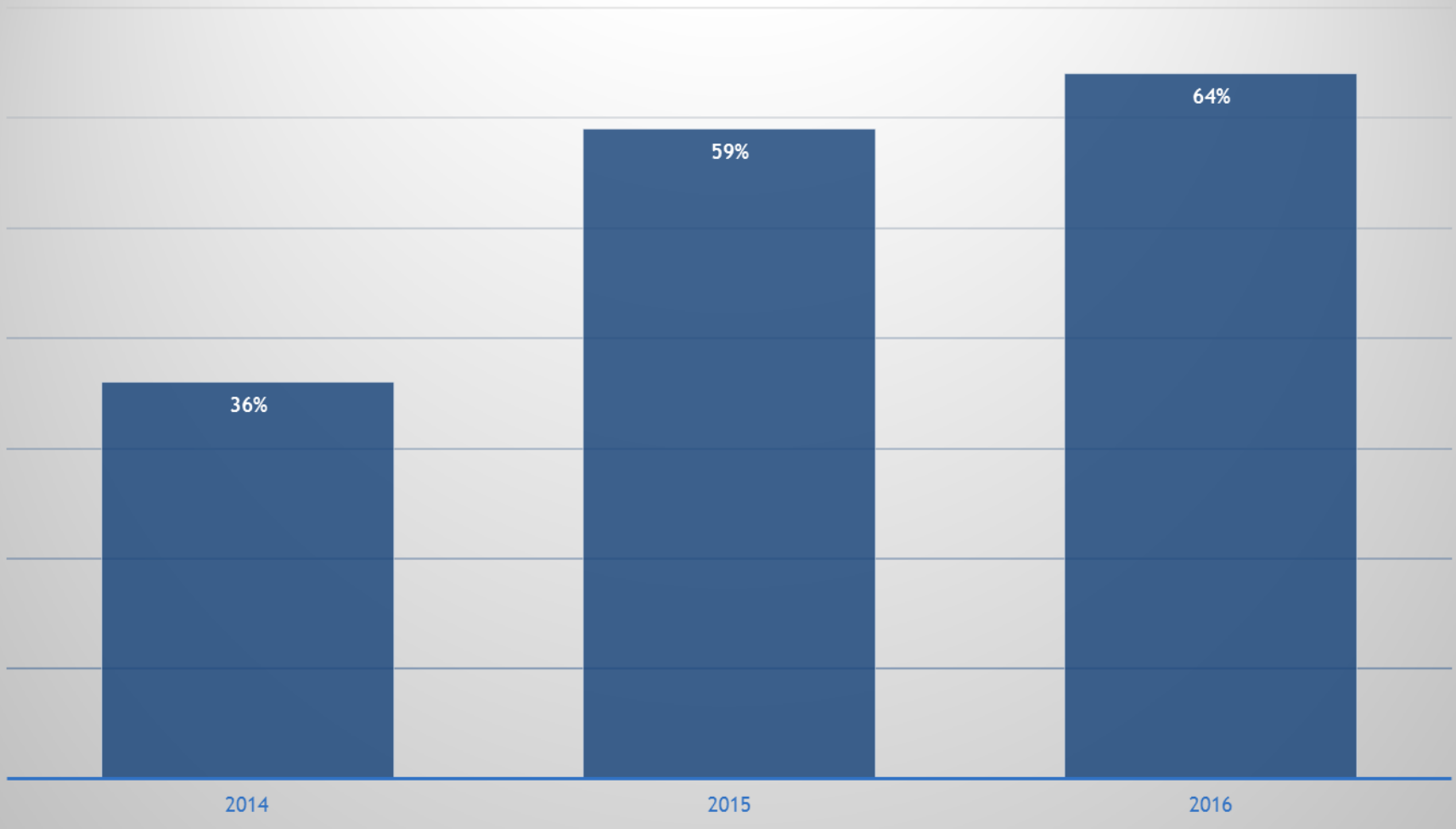
## Do

- Gather the experts
  - EMS Advisory Meeting (present 12-lead if unable to transmit)
  - ED Sub-committee (triage staffing rotation)
- Utilize LEAN concepts (trim the fat)
  - ECG mounting sheets in trauma rooms
  - ECG tape dispensers in trauma rooms
  - Request 12-lead from EMS professional
  - ECG

## Check

- Once all plan pieces are operational we will evaluate outcomes and continue to evaluate for further opportunities
- Sustainability

## 12-Lead ECG Read by Provider within 10 minutes

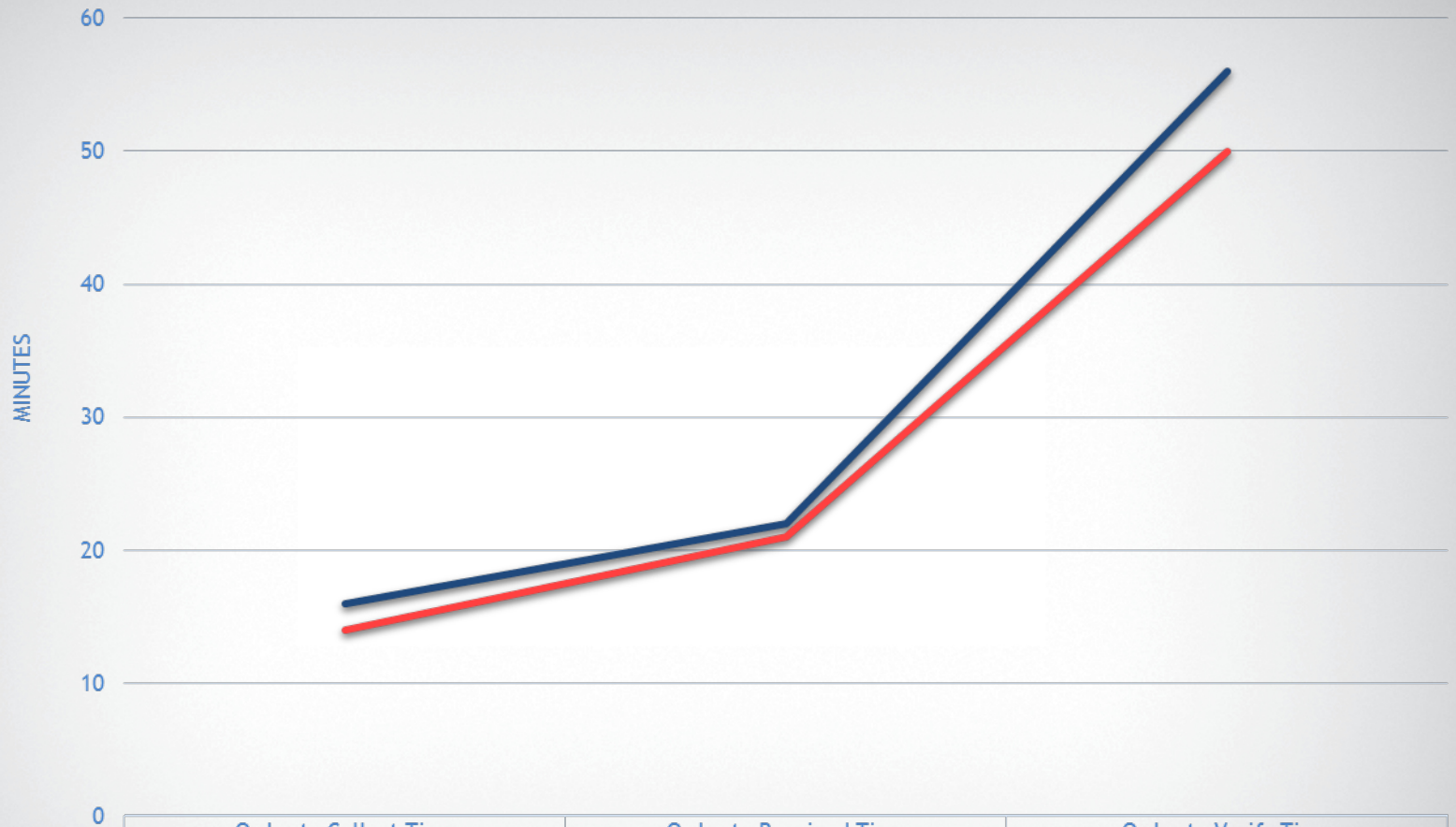




# Improvements

- Chest Pain Discharge Education and Process
- Low-Risk Algorithm
- Personal Data Report (PDR)
- STEMI Log Evolution
- Dashboard Evolution
- STEMI Review Meetings
  - Pain onset to reperfusion time
  - Pre and post ECGs
  - “Teaching moments”
- Cardiology/CPC Meetings
- Pacemakers
- Bubble studies
- Preparing for new cardiovascular procedures

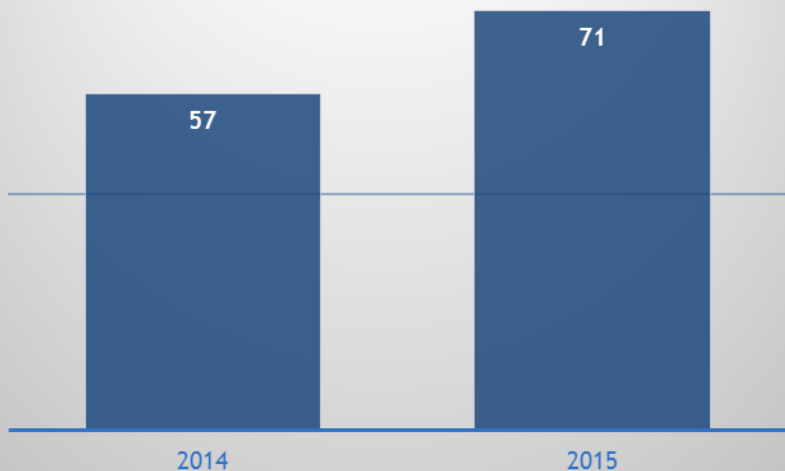
## TROPONIN TIMES



	Order to Collect Time	Order to Received Time	Order to Verify Time
Year 2015	16	22	56
YTD 2016 (7/6/16)	14	21	50



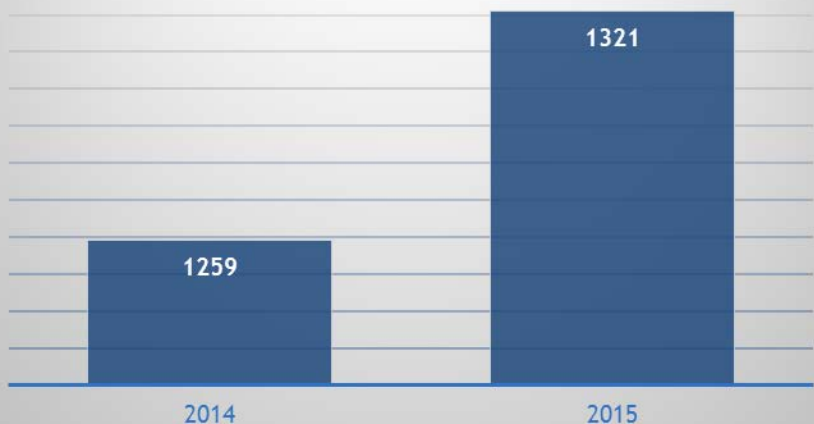
### Number of STEMI Cases



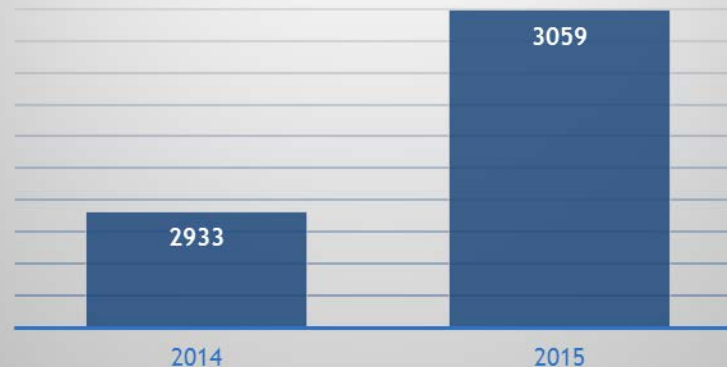
### Number of Cath Procedures



### Number of Stress Test



### Number of Echocardiograms



# Impact on Our Community



**Bartow County Health & Safety Fair**  
May 14, 2016 10:00 AM – 2:00 PM  
Cartersville High School



**BARTOW COUNTY SHERIFF'S OFFICE**



*Bartow County Animal Control*



Bartow County  
**Peer Support, Wellness, and Respite Center**  
A Community of People Who Support One Another





## Why Does Accreditation Matter...



Fernando, Nieves, 76 year old husband and father of 5, was working in the back of his delivery truck on Tuesday when he began to experience excruciating pain down his left arm and in his chest. With the help of his partner, Bartow EMS was soon on the scene and treated and transported Mr. Nieves to the ED. Upon arrival to CMC the ED team and CCL team promptly coordinated care, as Bartow EMS had already alerted CMC. DTR 45 minutes!! (2012)

# STEMI Review Dashboard

Date	1/27/2016	Time	Minutes	Running	
Pt Name	[REDACTED]	Increments	from TOA	(Total)	Comments
Mode of arrival	EMS				
Duration of c/p	4 days				
Arrival Time	11:33	0	0		
EKG Time	11:33	0:00	0:00	2	EMS - Door to EKG 0 min
MI Line Called	11:33	0:00	0:00	4	? PTA
Pt arrived CCL	11:33	0:00	0:00	6	bypass ED
MD arrived	11:36	0:03	3 min	30	
Proc begun	11:39	0:03	6 min	32	
Flow Restored	11:46	0:07	13 min	39	
	0:00	0:00	0:00	60	
<b>TOTALS</b>			<b>13 minutes</b>		

FPOC to EKG: 15 min  
 FPOC to RTF: 49 min  
 Call to Scene: 18 min

Time on Scene: 15 min

911 to EKG: 34 min  
 911 to RTF: 68 min

Time to Facility: 16 min (49 min total)

Summary: Pain onset 4 days prior to arrival. 1/27/16 pain onset presented to health nurse(?) received ASA 324mg po, facility noticed s&s of ACS/STEMI and called 911 - chain of survival

EMS to Georgia Power (tight security, border of county) - Excellent time! - transmitted EKG, field activation, INT site, Labs drawn, NTG (SL) administered, patient informed

Team waiting at EMS bay - ED MD ID pt & signed EKG- bypassed ED to CCL

Team waiting and prepared - Cardiologist identified vessel and restored flow in 7 minutes!

Result: Positive patient outcome. Door to Reperfusion 13 minutes. Excellent Teamwork from community to facility!



# Why Does Accreditation Matter...

- Accreditation pushes us to explore new avenues
  - Different perspective
  - Challenges us to explore our peripheral vision
  - Does not allow us to become comfortable
- Every patient, every time deserves 100%
- 45 minutes in 2012, to 13 minutes in 2016 - That is why...
- Bottom line... Our Community Matters!

Thank you!

GHA AWARD

