2017 CAREHOLDERS' REPORT

MedStar: enhancing care across the continuum



MISSION STATEMENT

To Provide World Class Mobile Healthcare with the Highest-Quality Customer Service and Clinical Excellence in a Fiscally Responsible Manner.



2017 Careholders' Report

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MedStar's had an amazing year in 2016!



April 1, 2016 was a significant milestone for MedStar as we celebrated our 30th Anniversary with the theme '30 Years of Caring and Innovation'. The outpouring of support from our community was humbling, with more than 300 community members, current and previous employees, and area dignitaries joining us for our anniversary open house event. We published a 30th

Anniversary report with testimonials from not only current Fort Worth area leaders and elected officials, but also community members who were instrumental in the creation of the Ambulance Authority in 1986!

MedStar continues to be one of the most recognized EMS agencies locally, nationally and even internationally. Our teams produce outstanding performance, continually meeting the needs of our growing community in a way that has made MedStar among the most clinically proficient, operationally effective and fiscally efficient EMS systems in the world.

The Emergency Physicians Advisory Board, through the Office of the Medical Director, released new state-of-the-art clinical protocols this year and all MedStar providers completed our extensive training and credentialing process. These new protocols represent some of the most evidence-based clinical guidelines in the EMS industry and we are grateful for the leadership of our Medical Director, Dr. Neal Richmond, for leading the development of these protocols.

Even with the dramatic changes in healthcare payment policies, our business office staff continues to do a fantastic job turning the services we provide for the community into the revenue we need to provide one of the highest clinically and operationally functioning EMS systems in the country without any reliance on local tax support.

Our Mobile Integrated Healthcare (MIH) service delivery model took a

substantial transition this year toward the concept of "EMS 3.0". Most notably, we were approached by insurers with an idea to completely change how they pay for EMS services—moving away from a fee-for-transport model toward a population-based model. As we continue to operationalize that paradigm shift, we are encouraged by the trust and value that our payers have come to place in MedStar and our team members to test patient-centered, innovative service delivery models. MedStar continues to be the "go-to" source for healthcare systems and EMS providers across the country who are considering testing new models for EMS service delivery. This year, our programs were highlighted in publications like the *Wall Street Journal, the Washington Post, USA Today* and *Kaiser Health News*.

The 460 Team Members serving our community were recognized with two national awards this year. The American Ambulance Association presented us with an "AMBY" award for our "MedStar Trick or Treat" event—a program that bring medically challenged children and their families out trick or treating for Halloween and the Journal of Emergency Medical Services (JEMS) recognized MedStar as a Top 10 Innovator in 2016 with an EMS10 Innovation Award. This was the 3rd time a member of MedStar has received this honor, a distinction held by only one other EMS agency in the country.

We are extremely blessed to have the opportunity serve this community. It is an honor that I, and all our team members work tirelessly to earn, every day, every patient contact.

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Douglas R. Hooten, MBA, CEO



MedStar responded to a record 137,009 calls, resulting in nearly 100,000 patient transports, a 13 percent increase over the number of responses four years ago.



TOTAL RESPONSES AND TRANSPORTS Total Responses Total Transports

Operations

- Employees: 460
- Ambulances: 57
- Annual Response Volume: 137,009
- Annual Staffed Unit Hours: 230,658

MedStar's growing employee base responded to a record number of calls for service in 2016.

2016 Milestones

- October 2015: American Ambulance
 Association AMBY Award for Trick or Treat Event
- February 2016: Journal of Emergency Medical Services EMS10 Innovation Award
- March 2016: Hail storm causes \$2.1 million in damage to MedStar facilities and equipment
- April 2016: MedStar celebrates 30 year anniversary
- May 2016: CPR Training Blitz at DFW Airport—2,500 people trained in 1 day

Community Profile

- MedStar Resident Population Served: 997,804
- Service Area Square Miles: 434
- Median Family Income: **\$55,888**
- Median Age of Population: 31.8

Through city annexations, MedStar's service area and population served continues to grow.

MedStar's 2016 Stars of Life Representatives

Each year, the American Ambulance Association's Stars of Life program celebrates the contributions of ambulance professionals who have provided exemplary service to their communities or the EMS profession. In April, MedStar was proud to be represented by EMT Bryan Harrell, Medical Records Manager Rick Hyatt and Information Technology Network Administrator Wayne Stokes at the annual Stars of Life conference in Washington, D.C.

"I joined the EMS profession in 1991, and after working as a field paramedic and a training officer, I'm now responsible for the accurate completion of patient care reports. I enjoy the diversity of the job, helping my fellow MedStar team members and the opportunity to ensure effective patient care and customer service." ~ Rick Hyatt, Medical Records Manager and one of MedStar's 2016 Stars of Life representatives





MedStar is awarded an exemplary TXDOT/National Safety Council safe driving award

MedStar communicators

MedStar's 911 Communication Center has been an Accredited Center of Excellence by the International Academies of Emergency Dispatch since 2002.



"Everyone on the MedStar communications team is trained to deal with callers in an efficient, effective and compassionate manner. We strive to put people at ease and to assure callers that we will assist them with their situation. When I go home at the end of my shift, I'm grateful to have a rewarding job that allows me to help people every day." ~ Monaca George, Dispatcher

Providing Education for a Safer and Healthier Community

The MedStar Training Academy (MTAC) worked with 668 individuals last year—281 internal employees and 387 external students. Additionally, MTAC served 133 EMT students (130 external, 3 internal) and 158 CPR students (87 external, 71 internal). These individuals returned to their community with the training needed to quickly respond to medical emergencies.

2016 MEDSTAR TRAINING ACADEMY CLASSES Internal Employees External Students



COMMUNITY COMMITMENT

MedStar Serves Our Community Through Public Health Education and Prevention Programs.

2016 was another outstanding year for MedStar's community relations activities, both locally and nationally. With a dedicated focus on improving the health and safety of our local community, we continually strive to give back to the community we are honored to serve.

Nearing a Public Education Goal

In conjunction with other community partners in the "Take 20 For Life" program, MedStar moved closer to a five-year goal of providing hands-only CPR training to 25,000 area residents. Nearly 24,000 people are now able to provide the early and effective chest compressions that are proven to substantially increase cardiac arrest survival rates. The program includes a self-instruction kit and training video for use by schools, churches, civic organizations, businesses and other groups. Additionally, MedStar professionals have provided training at Dallas/Fort Worth International Airport, at the Main Street Arts Festival and other community events.

Safe Communities Coalition

MedStar is proud to be among the region's leading public safety and public health agencies as a member of the Fort Worth Safe Communities Coalition. MedStar

chairs the Coalition's task forces on Road Safety and Elder Abuse and provides expertise and leadership to task forces on Drowning Prevention, Fall Prevention, Disaster Preparedness, and Drug Overdose/Opiate Abuse.







MedStar supports the mission of Mothers Against Drunk Driving by co-branding two of our ambulances with their "No More Victims" logo.

COMMUNITY COMMITMENT

Thanksgiving Day Tradition

Once again, MedStar offered the annual Home For The Holidays program. Three nursing home residents who otherwise would not be able to afford the required ambulance transportation were united with their families for Thanksgiving dinner courtesy of MedStar.

MedStar Trick or Treat

Three local children and their families enjoyed a special Halloween thanks to MedStar and partners in the Berkeley and Pembroke neighborhoods of Fort Worth. The annual MedStar Trick or Treat event provides personnel and equipment that help children with significant medical challenges to enjoy a typical Halloween for the first time.

MedStar's award winning Trick or Treat program allows children with serious medical issues to enjoy a typical Halloween night in the Berkeley and Pembroke neighborhoods.



MedStar Foundation Golf Tournament Benefits True Worth Place

The annual MedStar Foundation golf tournament raised more than \$6,000 for True Worth Place, a day shelter and resource facility that serves local individuals and families experiencing homelessness. True Worth Place provides basic services in a safe and clean environment and helps clients access health care, mental health, substance abuse, employment and other services and agencies.



MedStar staff and guests enjoyed a gorgeous day of golf and giving to benefit True Worth Place. The golf tournament raised more than \$6,000 for the day shelter and service provider that assists local individuals and families who are homeless.

HIGHER STANDARDS: SERVICE

Mobile Integrated Healthcare (MIH)

MedStar continues to lead the industry in the development of MIH programs across the country. Since 2012, MedStar has hosted more than 195 communities from 42 states and 6 countries to teach them how to set up MIH programs in their local communities. We also have formal consulting arrangements with over 20 agencies helping them set up and measure the impact of these programs.

Locally, since 2013, more than 8,000 patients have been enrolled in our MIH programs.

MedStar Agrees to Share Its Story

At the request of Jones and Bartlett Learning, a premier healthcare text publisher, MedStar authored a book titled "Mobile Integrated Healthcare—Approach to Implementation". The book has been read by thousands of EMS and healthcare industry stakeholders to help develop and establish MIH programs designed to meet the Institute of Healthcare Improvement's Triple Aim:



MEDSTAR MIH PROGRAM PARTICIPATION



- 3,760 Emergency department visits avoided
- 553 Hospital admissions avoided
- 7,162 Ambulance transports avoided
- 35.4 Average percentage improvement in enrolled patient's perception of their health status
 \$12,200,205 Reduction in healthcare
 - expenditures

MOBILE INTEGRATED HEALTHCARE

Approach to Implementation

MedStar Mobile Healthcare



7

CEO of the Institute for Healthcare Improvement.

• Improved experience of care for the patient

Proceeds from the book royalties are donated

to the MedStar Foundation for contributions to

local charities and first response agencies. Of in-

teresting note, the foreword for the book is writ-

ten by Maureen Bisognano, the President and

Improve the health of populations

Reduce healthcare costs

Patient Experience Surveys

The Centers for Medicare and Medicaid Services (CMS) requires hospitals, physicians,



and other healthcare providers to use external agencies approved by CMS to conduct patient

satisfaction surveys. CMS uses the results from these surveys to determine financial bonuses or penalties to these providers. Recognizing the value of externally conducted patient satisfaction surveys, MedStar has engaged the EMS Survey Team (EMSST) to conduct external patient experience surveys of our patients. These results are then benchmarked against other EMS agencies and published to our local stakeholders. We use this information to continually improve our patient's experience with our service.

For the 4th Quarter of 2016, the EMS Survey Team reported that MedStar's Team earned the highest patient experience scores for all 135 EMS agencies included in the database.

This report is generated from externally conducted, randomized surveys of MedStar patient contacts.

We are exceptionally proud of all our Team members for this amazing accomplishment!

MedStar scored the highest for every EMS Agency comparison:

- Similar size EMS agencies
- Agencies accredited by the Commission for the Accreditation of Ambulance Services (CAAS)
- All EMS Agencies in the EMS Survey Team Databases

TOP 5 SCORES - FIELD OPERATIONS (OUT OF 100)

98.00 Appropriateness of treatment
97.96 Extent to which our staff eased your entry into the medical facility
97.84 Medics' concern for your privacy
97.83 Extent to which the medics kept you informed about your treatment
97.81 Skill of the ambulance operation

TOP 5 SCORES - NON-FIELD OPERATIONS (OUT OF 100)

- **95.66** Concern shown by the person you called for ambulance service
- **95.33** Helpfulness of the person you called for ambulance service
- **95.21** Extent to which you were told what to do until the ambulance arrived
- **91.69** Willingness of the staff in our billing office to address your needs
- **91.54** Professionalism of the staff in our billing office

PATIENT SATISFACTION RESULTS MEDSTAR VS. COMPARABLE ORGANIZATIONS



HIGHER STANDARDS: SERVICE

MedStar continues to fulfill our commitment to provide high performance, high value services that enhance the community's health while operating in a fiscally responsible manner.



BUDGETED AND ACTUAL EXPENDITURES (\$ millions) • Budget • Actual



Actual expenditures are routinely below budget as represented by our cost per transport keeping pace with revenues per transport.

In the face of greater demands, MedStar's stable payer mix and emphasis on efficiency allows us to provide care that exceeds patient expectations in a fiscally responsible manner.



HIGHER STANDARDS: SERVICE

The changes in the U.S. healthcare payer environment has changed the payer mix for MedStar's services. Concentrated efforts to diversify our revenue streams with services like MIH, and testing alternate payment models for EMS, helps us mitigate some of the impacts of the changing environment.

BILLED CHARGES





Priority 3: Non-emergent

NET COLLECTIONS





MEDSTAR SYSTEM RESPONSE TIMES (minutes)

Medical Direction & Oversight

The Office of the Medical Director (OMD) provides clinical guidance for all aspects of patient care. This includes medical direction and oversight for the entire System, including MedStar Mobile Healthcare and the 15 participating First Response Organizations (FROs).

Blueprint for Quality

Over the course of 2016, OMD's focus has been on the 'Blueprint for Quality', a system wide initiative emphasizing process improvement and change.

- **Protocols:** a brand new set of progressive, evidence-based, latest 'best practices' protocols has been designed and implemented to guide EMTs and paramedics in the treatment of a broad spectrum of medical conditions, including everything from congestive heart failure to penetrating chest trauma.
- **Credentialing:** all MedStar and FRO providers undergo comprehensive training, competency evaluation, and credentialing in new system protocols for both 911 emergency and mobile integrated healthcare.
- **Training and Education:** a complete restructuring of all training and education programs has been initiated to shift the

emphasis from more traditional, didactic classroom education to the utilization of case-based scenario training, and to the development of clinical mentors through an enhanced Field Training Officer program. The purpose is to prepare EMTs, paramedics, and FROs with the necessary critical thinking and clinical decision making skills that they will need to make a difference in the streets and homes of our community.



- Quality Assurance: a new platform for clinical improvement activities was introduced system wide, including self-reporting by EMTs and paramedics, sentinel event recognition and remediation, especially of high priority cases, and a comprehensive dashboard to monitor critical case management of patients with potentially life threatening disease processes, including heart attack, stroke, systemic infection, respiratory failure
- and cardiac arrest.

MedStar's personnel use expert ongoing education and credentialing, coupled with the latest technology, to enhance clinical excellence.



Cardiac Arrest Management

Cardiac arrest is a public health issue with widespread incidence and severe impact on human health and wellbeing. According to the CDC, the incidence of out-of-hospital cardiac arrest (OHCA) in the United States, in 2015, was approximately 357,000 people with only 10-30% of those individuals surviving to the hospital. For those survivors, many suffer from injury to the brain along with other physical ailments. There is also an economic impact as the estimated burden to society of death from OHCA is 2 million years of life lost for men and 1.3 million years for women. This is greater than estimates for all individual cancers and most leading causes of death.

Through participation in the Cardiac Arrest Registry to Enhance Survival (CARES) network, we are able to measure performance and identify how to improve cardiac arrest survival rates. In 2016, MedStar treated 894 OHCA patients with 53% surviving to the hospital and 13% of survivors being discharged with minimal to no neurological deficit.

There are many factors at play in surviving an OHCA. One very important aspect is early intervention by those that witness the event. This starts with early, high-quality CPR, including compression only CPR, and use of an automated external defibrillator (AED). These interventions can reduce morbidity and save lives. The CARES data revealed that the community that MedStar services was below the National percentage for bystander intervention using an AED. This may be due to accessibility and/or training. MedStar is focused on increasing access to AED, along with CPR training for bystanders.

Overall Bystander Witnessed

2016 CARES SURVIVAL DATA MedStar 2016 (not validated) National 2016 (not validated)



UNDERSTANDING THE OHCA MEASURES

- **Overall:** percent of OHCA that survived
- **Bystander Witnessed:** percent of OHCA that were witnessed and survived
- Unwitnessed: percent of OHCA that were not witnessed/patient was found down and survived
- Utstein: percent of OHCA that were witnessed, found in a shockable rhythm and survived
- Utstein Bystander: percent of OHCA that were witnessed, found in a shockable rhythm, received some bystander intervention (CPR and/or AED) and survived
- Bystander CPR: percent of OHCA
 that received bystander CPR
- Bystander AED Use: percent of OHCA that had an AED applied
- CPC 1 or 2: percent of OHCA that survived and had minimal to no brain injury

Clinical Studies

OMD and MedStar are active participants and national leaders in clinical prehospital research. In collaboration with the University of Texas Southwestern Medical Center and the National Institute of Health Resuscitation Outcomes Consortium, we continue to make a significant contribution to the growth and development of our discipline. The results of this work have been published in peer-reviewed medical journals and presented at a number of national scientific conferences.

Advanced airway management: We demonstrated significant improvement in advanced airway management (placement of a breathing tube) in critically ill patients by EMS providers.

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Awarded Best Poster at EMS Today 2017 in Salt Lake City, Utah

Following education and training in the analysis and interpretation of patient blood gas values, EMTs and paramedics were better able to confirm airway placement in patients who were no longer able to effectively breathe on their own.

Resuscitation Outcomes Consortium Studies

Pragmatic Airway Resuscitation Trial (PART): The purpose of this national study is to answer the important question of which



commonly used airway device results in better survival for patients who are in cardiac arrest and therefore no longer able to breathe on their own. Of the several 911 systems participating in this multicity scientific trial, MedStar is one of the leading patient enrollment sites.

Tranexamic Acid (TXA): The purpose of this national study is to determine if the intravenous use of the drug TXA, first utilized by the U.S. military in the Iraq war, will improve neurologic function and survival in patients who have brain hemorrhage due to moderate-to-severe head injury. The study has been completed, with MedStar being recognized as the highest enroller of patients among participating cities. Results of this study will be published sometime in Fall 2017.



Future Initiatives

Blueprint for Value: MedStar Mobile Healthcare continues to pioneer the development of new models for out-of-hospital healthcare. Building on our earlier Blueprint for Quality, our goal is to complete the design and implementation of a new Blueprint for Value, focusing on the collaborative management of patients through Mobile Integrated Healthcare instead of through the more traditional use of 911 ambulances and hospital emergency departments.

The immediate objective of this new effort is to develop quality assurance and improvement processes similar to, but distinct from, those previously outlined in the Blueprint for Quality that focused on the 911 components of the MedStar system. The larger aim is to explore not just the means by which to provide quality out-of-hospital healthcare, but also to determine how such care can be instituted in a way that is both resource efficient and financially sustainable, and thereby provides value as well as quality to our patients, the System, and the broader healthcare network.

911 System Integration: Like many other 911 emergency medical services systems, the availability and analysis of clinical data for quality assurance of patient care is largely focused on the ambulance transport component of the system, with less emphasis on both 911 call-taking processes and first-responder care.

- One of the OMDs objectives for the coming year is focusing on 911 system integration, starting with the initial call to 911, and to stabilization by first-responders prior to the arrival of ambulance personnel on-scene. Our plan is to work closely with system stakeholders for a two-fold purpose:
- To analyze all aspects of 911 call-processing by the multiple 911 Communication Centers or Public Safety Answering Points (PSAPs) that currently constitute the system. Following completion of this analysis, we will make recommendations regarding improved efficiency and integration of 911 communications system wide.
- OMD and MedStar will also be exploring the financial, operational, and technological challenges to integrating all system providers into a common platform for sharing clinical and patient care data. This will focus on written patient care reports and electronic uploads of cardiac monitor and continuous end-tidal waveform capnography data. Following completion of this initiative, our goal is to make recommendations for the acquisition and use of new technology, and for the integration of data between MedStar system partners.

LEADERSHIP

Executive Team:

- Douglas Hooten, Chief Executive Officer
- Dwayne Howerton, Chief Clinical Officer
- Joan Jordan, Chief Finance Officer
- Neal Richmond, MD, Medical Director
- Kristofer Schleicher, General Counsel
- Kenneth Simpson, Chief Operating Officer
- Matt Zavadsky, Chief Strategic Integration Officer

Management Team:

- Richard Brooks, Customer Integration Manager
- Chad Carr, Compliance Officer, Paralegal
- Christopher Cunningham, Field Operations Manager
- Shaun Curtis, Risk and Safety Manager
- William Gleason, Clinical Quality Manager
- Stacy Harrison, Controller
- Ricky Hyatt, Medical Records Manager
- Desiree Partain, Mobile Integrated Healthcare Manager
- Michael Potts, Support Services Manager
- Dale Rose, Communications Manager
- Tina Smith, Human Resources Manager
- Wayne Stokes, I/T Manager
- Heath Stone, Assistant Field Operations Manager
- Bob Strickland, Business Intelligence Manager
- Susan Swagerty, Business Office Manager
- Macara Trusty, Education and Community Programs Manager

Area Metropolitan Ambulance Authority 2016 Board of Directors:















Zim Zimmerman Chairman

Richmond

Dr. Darrin D'Agostino

Stephen Tatum

Paul Harral

Emergency Physicians Advisory Board

Dr. Rajesh

Gandhi

Board Member	Representing	Specialty
Chris Bolton	Baylor All Saints	Emergency Medicine
Cory Warmink	Cook Children's	Pediatrics
Anent Patel	JPS	Emergency Medicine
Rajesh Gandhi	JPS (Trauma)	Trauma Surgeon
	Medical City-Alliance	
David Hanscom	Medical City-Fort Worth	Emergency Medicine
Steven Martin	Tarrant County Medical Society	Occupational Medicine
Gary Floyd	Tarrant County Medical Society	Pediatrics
Dan Goggin	Tarrant County Medical Society	Psychiatry
(Open)	Tarrant County Medical Society	Cardiology
Brett Cochrum	Tarrant County Medical Society	Family Medicine
John Geesbreght	THR-Harris Methodist Fort Worth	Emergency Medicine
Brad Commons		Emergency Medicine
Shawn Sanderson	THR-Huguely	Emergency Medicine
Michelle Beeson	THR-South West	Emergency Medicine

Dr. Neal



MedStar Mobile Healthcare

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