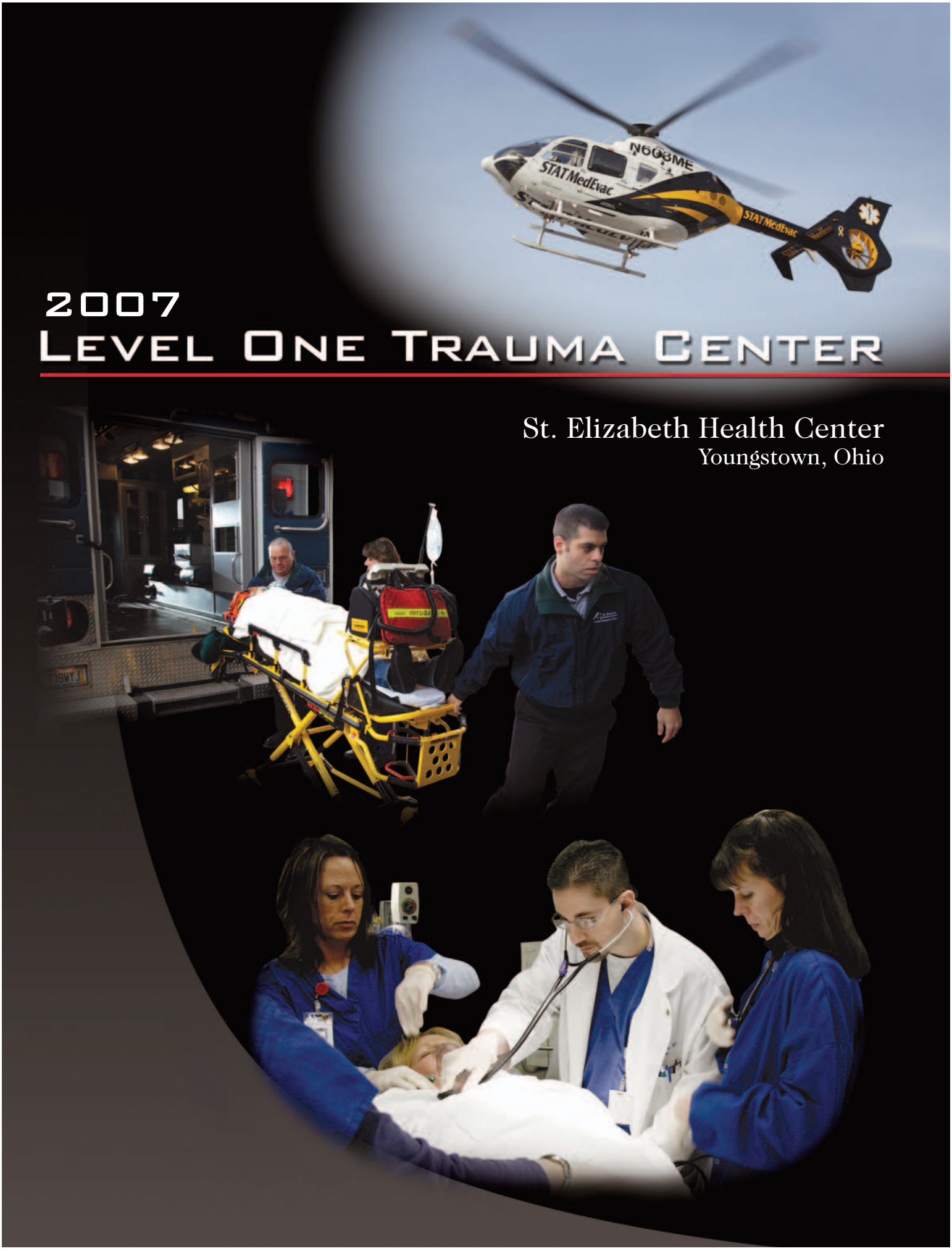


2007
Level One Trauma Center

St. Elizabeth Health Center
Youngstown, Ohio

Dear Friends:

A traumatic event can happen in the blink of an eye. It can strike any one of us – or a family member or close friend. The majority of our trauma patients come to St. Elizabeth as a result of motor vehicle crashes and falls. The over-sensationalized "knife and gun club" represents only a small portion of the injuries we see.

As the area's only Level I Trauma Center, our multidisciplinary team is dedicated to assuming a leadership role in development, evaluation and continuous quality improvement of trauma care in the region.

We work collaboratively with St. Joseph Health Center, the first hospital in Trumbull County verified as a Level III Trauma Center. This partnership between hospitals assures that even the most severely injured patients can receive the treatment they need close to home, easing some of the burden faced by families who might otherwise have to travel to Cleveland or Pittsburgh during their loved one's hospitalization.

And, we are proud of the role we play in providing emergency services and surgical care for members of our regional community.

Exciting changes took place throughout 2007. We prepared for our second straight deficiency-free reverification visit by the American College of Surgeons' Committee on Trauma in December. Our program saw the development and implementation of a robust performance improvement process focused on quality care. As trauma volume steadily increased, our team grew with the addition of registry personnel. Also, the addition of an injury prevention/outreach coordinator enhanced our ability to offer educational opportunities to regional EMS providers.

As we move forward in 2008, our focus is on continuing to provide quality care. We will also continue our trauma awareness and prevention programs and increase our role in advocacy for trauma systems across the state and nation.

Thank you for your interest in our program and for the opportunity to share the information in our 2007 annual report. We welcome your questions and/or comments. Please feel free to contact us at 330-480-3907.

Sincerely,

Brian S. Gruber, MD
Director of Trauma and Critical Care Services

Daneen Mace, RN, BSN, ONC
Program Director of Trauma/Orthopaedic Trauma

St. Elizabeth Health Center
Humility of Mary Health Partners

Meet the Staff

Trauma Surgeons

Brian S. Gruber, M.D.
Director, Trauma/Critical Care Service
Clinical Assistant Professor of Surgery
Northeastern Ohio Universities College of Medicine

C. Michael Dunham, M.D., F.A.C.S., F.C.C.M.
Asst. Director, Trauma/Critical Care Service
Clinical Professor of Surgery
Northeastern Ohio Universities College of Medicine

Heath A. Dorion, M.D., F.A.C.S.
Assistant Director of Education, General Surgery
Clinical Assistant Professor of Surgery
Northeastern Ohio Universities College of Medicine

Ronald Rhodes, M.D.
Assoc. Program Director, Surgical Education
Assistant Director of Education, General Surgery
Clinical Assistant Professor of Surgery

Phone: **330-480-3907**

Attending Surgeons Supplementing Trauma Call Schedule

Joseph Ambrose, M.D.

Mounir Awad, M.D.

Joshua Gady, M.D.

Janet Shiley, M.D.

Trauma Program Staff

Trauma Program Director
Daneen Mace, RN, BSN, ONC
Trauma/Orthopaedic Trauma/Plastic Trauma
Phone: 330-480-4417

Advance Practice Nurses
Laurie Flowers, CNS
Phone: 330-480-2456
Alisa Katradis, CNP
Phone: 330-480-8876
Diane Kupensky, CNS
Phone: 330-480-3616

Outreach/Injury Prevention Coordinator
M. Ben Melnykovich, RN, BSAS
Phone: 330-480-8877

Trauma Registry Coordinator
Renee Merrell, CAISS
Phone: 330-480-3880

Trauma Data Specialist
Nancy Montwori
Phone: 330-480-2963

Trauma Professional Fee Coder
Lillian Delmont, CPC
Phone: 330-480-2496

Secretary
Susan Shiamone
Phone: 330-480-3907

Mission Statement

Our mission is to reduce trauma related death and disability and to assume a leadership role in development, evaluation, and continuous quality improvement of trauma care.

Summary

St. Elizabeth Health Center (SEHC) is a Level I trauma center and was re-verified by the American College of Surgeons in December. SEHC is a regional tertiary care trauma center serving Ohio and Western Pennsylvania. This annual report is a summary regarding trauma patients admitted between January 1 and December 31, 2007.

Our multidisciplinary team is dedicated to the treatment of the trauma victim, the education of the community and the prevention of injury. We strive for optimal outcomes by providing efficient, quality care and are committed to our patients and their families.

The trauma program includes traumatologists (board-certified general surgeons with trauma fellowships, who are also board-certified in critical care medicine), EMS providers, specialty physicians, nurses, therapists and other ancillary health care personnel. The team works together to optimize outcomes and improve the life of the critically injured patient.

The goal of this comprehensive system is to take advantage of the limited opportunity that exists during the golden hour to increase survival. Before the trauma program began, patients would have to wait in the emergency room for surgeons and specialists to arrive at the hospital. In 2007, our trauma team was fully prepared and assembled before each of the 2,019 trauma patients arrived at our doors.

Continual reassessment of the trauma program is essential for handling traumatic injuries swiftly and efficiently. Specialized training and continuing education provide up-to-date skills. Protocols and evidence based practice management guidelines ensure smooth teamwork and the highest quality care.

Each member of the community benefits from the innovative spirit that sets St. Elizabeth apart as a leader in health care – a spirit that thrives in each and every associate. We believe all patients who require the resources of the Level I center should have access to them and we have made it our mission to ensure that access.

What is a Level 1 Trauma Center?

Level I is the highest rating designated to a trauma center by the American College of Surgeons. It allows for the quickest response possible to treat the severely injured. The trauma team meets or exceeds rigorous staffing criteria and takes an organized and systematic approach to its work. The team is in a constant state of readiness 24 hours a day. Facilities such as a 64-slice CT scanner, surgery suite, and critical care unit stand ready for the trauma patient. SEHC also has a helipad on campus, to accommodate air ambulance traffic.

In order to be recognized as a Trauma Center in Ohio, hospitals must comply with sections 4798.01 and 3727.101 of the Ohio Revised Code. American College of Surgeons (ACS) verified Trauma Centers must submit documentation of verification. As of March 2008, there are 14 accredited Level I Adult and/or Pediatric hospitals in the State of Ohio.

In addition to acute care responsibilities, Level I trauma centers have a major responsibility of providing leadership in education, research, and system planning.

SEHC has continued to develop the trauma program in clinical care, performance improvement, functional recovery, research and injury prevention.

What Qualifies as a Trauma?

Trauma may be characterized as an abnormal energy transfer resulting in injury. Most commonly, mechanical energy from a moving object is transferred to a stationary one. Examples:

- An automobile crash (a moving object hitting a stationary one, or two objects moving in opposition)
- A fall (a moving object, a person, hitting a stationary one, the ground)
- A penetrating injury (A moving object, a weapon, hitting a stationary one, a person)

Major Trauma

A major trauma results in unstable vital signs and/or injuries involving two or more body systems. It may be caused by an automobile crash.

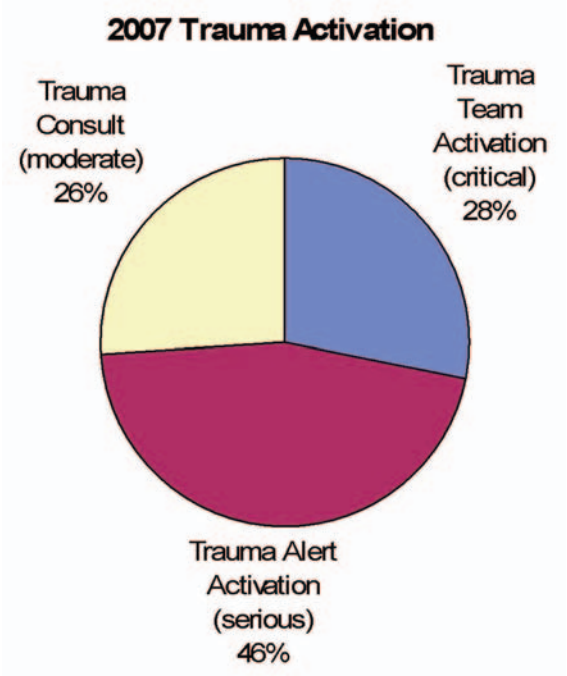
Minor Trauma

Minor trauma results in isolated injuries or injury to a single body region, such as a hip fracture.

Three-Tier Response to Trauma

The appropriate activation is crucial to the trauma patient. Emergency medical professionals evaluate the patients at the scene of injury and enter the patient into the trauma system, if they conclude that the patient meets established triage criteria for a trauma. The initial assessment of the patient's condition is relayed to the emergency department physician. The emergency medicine physician is responsible for deciding which level of response is warranted based on the information provided by the pre-hospital care providers. Pre-hospital triage and transfer criteria are based guidelines established by the American College of Surgeons and the State of Ohio.

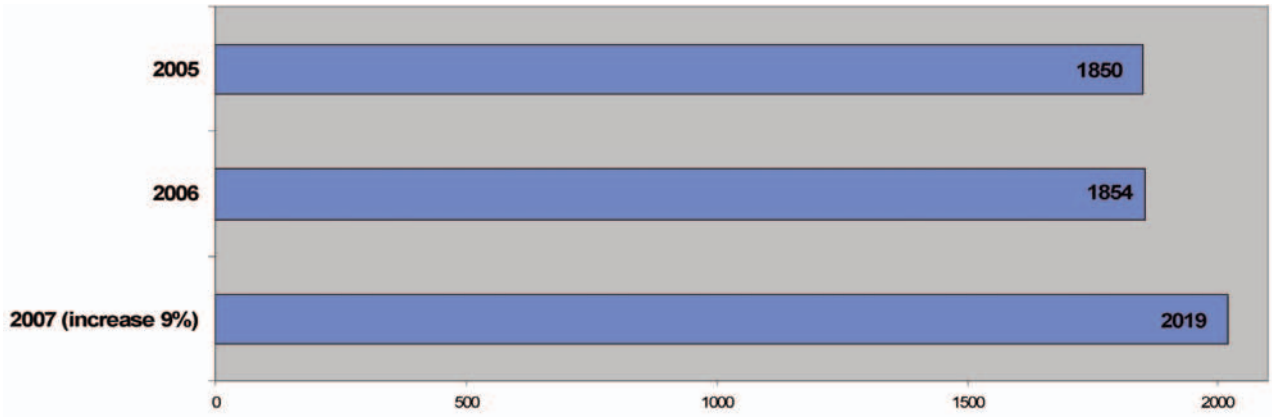
2007 Statistics



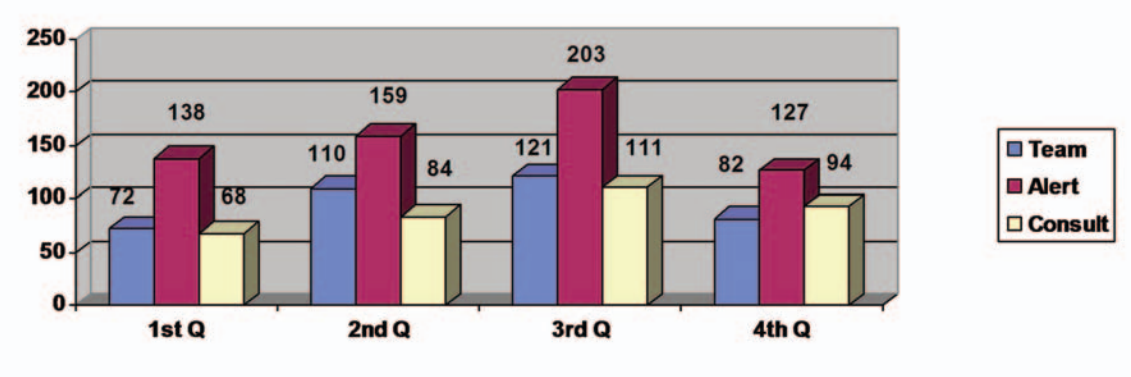
The trauma program monitors appropriate level of activation to reduce the potential of inappropriate use of resources that may affect patient outcomes.

Trauma Volume

Three-Year Comparison of Total Trauma Patients



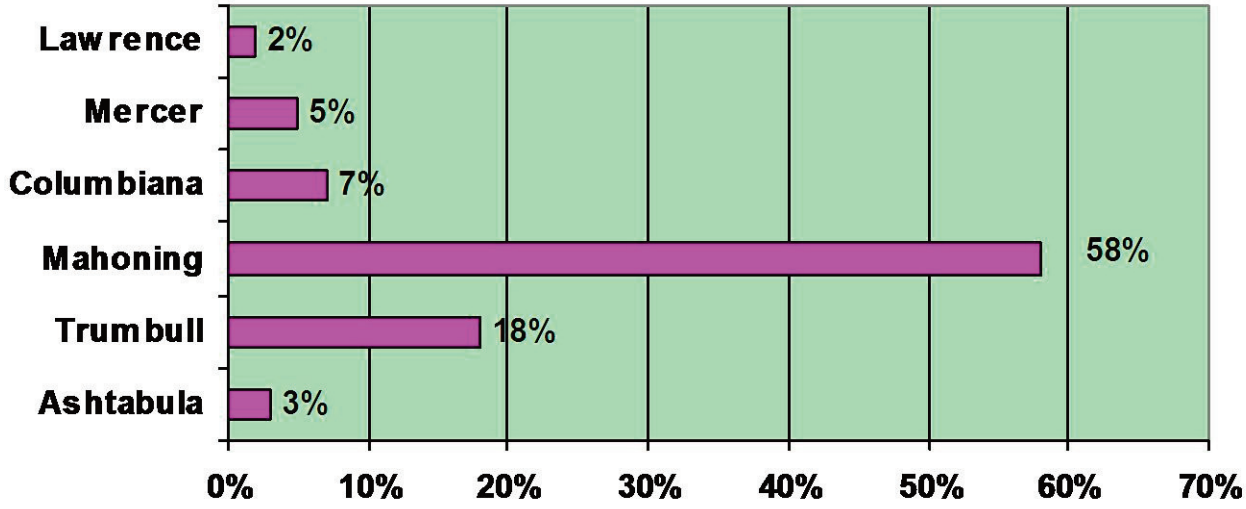
Trauma Volume by level of activation and quarter



Patients Served at the Trauma Center

The Mahoning Valley makes up 83% of our trauma population.

The Mahoning Valley has a population census of nearly 600,000 residents.



*Other Counties - 7%

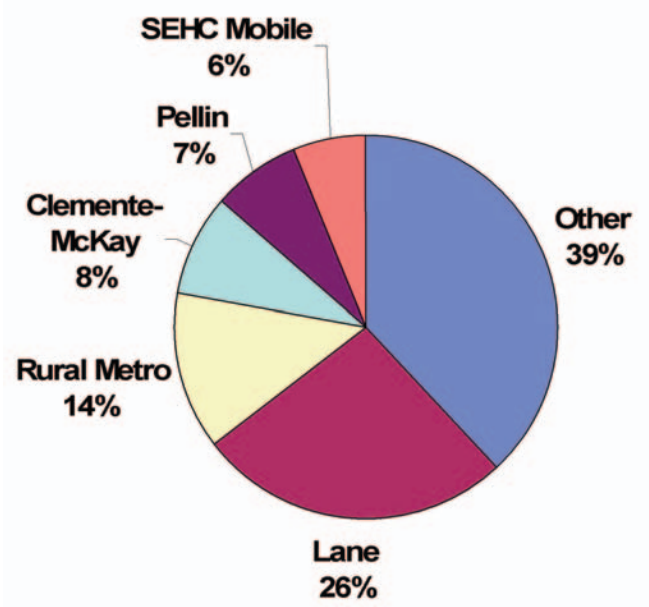
Mode of Patient Arrival

At the core of the SEHC trauma system are clinical and operational elements that provide direct patient care once an injury has occurred. These consist of hospitals and EMS providers that have a preplanned response to caring for an injured patient. They require the use of coordinated communication, accurate identification of the level of care needed by an injured patient, and rapid transport to the trauma center.

Ground transport to the trauma center makes up 77% of the patients.

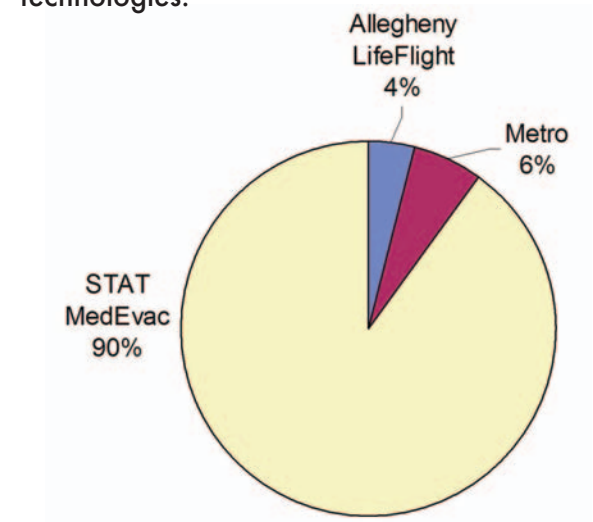
Ambulance Arrivals

629 (31%) Patients Arrived by Ambulance
Five companies transported 61% of the patients to the trauma center. The remaining 39% of patients were transported by 48 different companies.



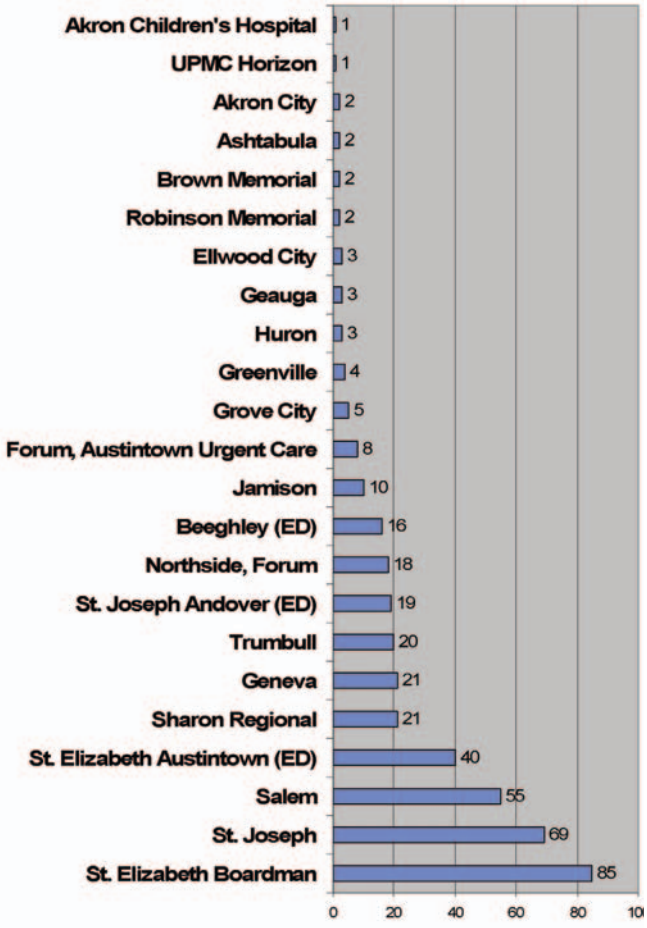
Air Medical Access

228 (11%) Patients Arrived by Helicopter
STAT MedEvac, which bases an aircraft at the Youngstown Eliser Airport, transports the vast majority of our patients arriving by aircraft. These aircraft are equipped with the latest in lifesaving and advanced aviation technologies.

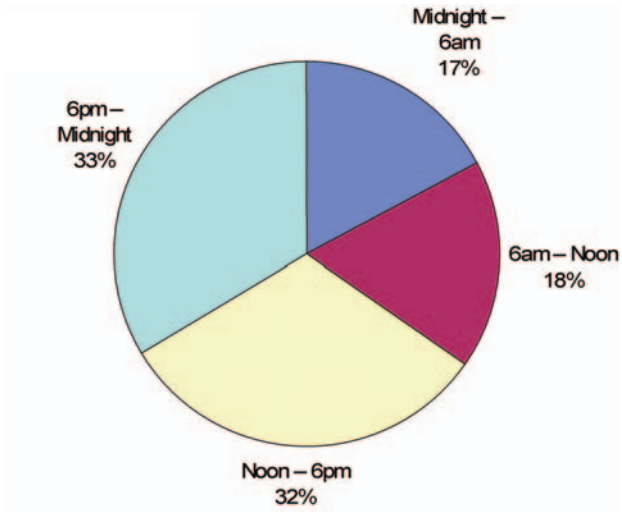


Transfers from other facilities

As SEHC is a tertiary care facility, many of the trauma patients come from outside hospitals. In 2007, 410 patients were transferred to the Level 1 Trauma Center from another facility (21%).



Arrival Times



Emergency Services

The emergency department is a key part of the Level I trauma center. Specially trained emergency staff ensures each patient receives the best care possible. There are approximately 70 health care professionals that staff the department. Its physicians are board-certified in emergency care. The department holds 30 rooms with areas dedicated to trauma/critical care.

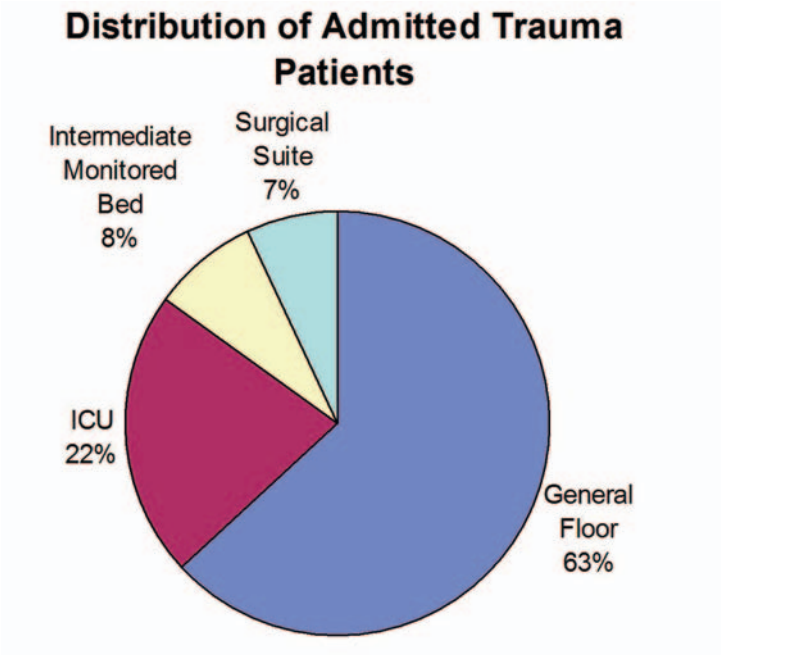
Surgical Suites

State of the art operating suites are designed for the patient with multiple injuries. There is a surgical suite, as well as anesthesia staff, available to the trauma patient 24 hours a day, 7 days a week, and 365 days a year. During the year, there were 772 visits to the operating room.

Surgical Intensive Care Unit

The need for critical care services has increased over the past 10 years. SEHC has a dedicated ICU staff with 24/7 surgical coverage, allowing for immediate care of the critically injured patient. The surgical intensive care unit has a total of 12 beds, two of which are dedicated to pediatric trauma patient. In 2007, 428 patients were admitted to the intensive care unit.

In 2007, patients were admitted to the following areas from the emergency department.



Rehabilitation Unit

The rehabilitation unit at SEHC is a 28-bed unit that provides services up to seven days a week to individuals with complex rehabilitation needs. Following their acute hospitalization, 234 trauma patients were admitted to the rehabilitation unit prior to transitioning home.

Physical Therapy helps with mobility, balance, and safe transfer skills. Treatments are scheduled twice daily, and consist of exercise to gain strength and restore muscle function, and ambulation to improve balance and gait.

Occupational Therapy helps to develop skills in self-care, homemaking, recreation, school and work.

Speech/Language Therapy assists with speech, language, memory, thinking and swallowing disorders.

Recreational Therapy develops strength in social, emotional, and physical skills. This therapy helps with communication of thoughts, feelings and also develops self-awareness.

Trauma Registry

Trauma services maintains a complex database of all information gathered during the treatment of each trauma patient. The registry contains data on demographics, mechanism, pre-hospital care, emergency department, inpatient care, performance improvement issues, and outcome information.

Information from this database enables staff to pinpoint areas that need to be improved in the medical process and facility; identify system-related, provider-related and disease-related issues that can be addressed.

For example, by recognizing trends in blood alcohol levels in victims of motor vehicle crashes, our injury prevention coordinator can have discussions with area law enforcement agencies to increase the number of random alcohol checkpoints.

Similarly, other statistics provide the groundwork to determine injury prevention strategies, resource utilization and provide trauma education and public health information.

Trauma Patients Scales

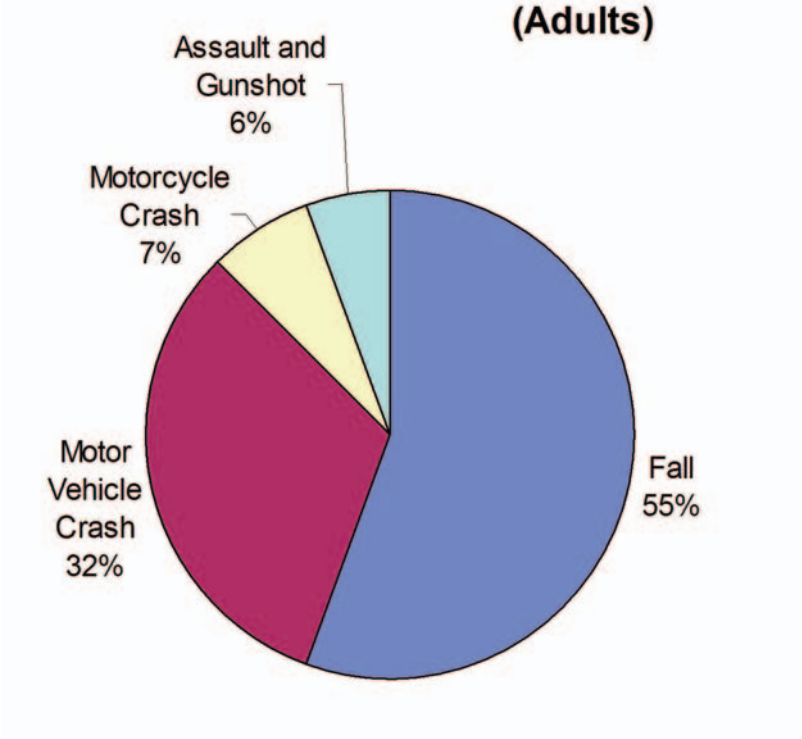
Injury Severity Score (ISS)

It is an anatomical scoring system to provide an overall score for trauma patients. The injury severity score is the sum of squares of the three highest abbreviated injury scale scores for injuries to different body regions (head/neck, face, thorax, abdomen, and pelvic content, extremities, and external). ISS takes values from 1 to 75, 1 being a minor injury and 75 being a lethal injury.

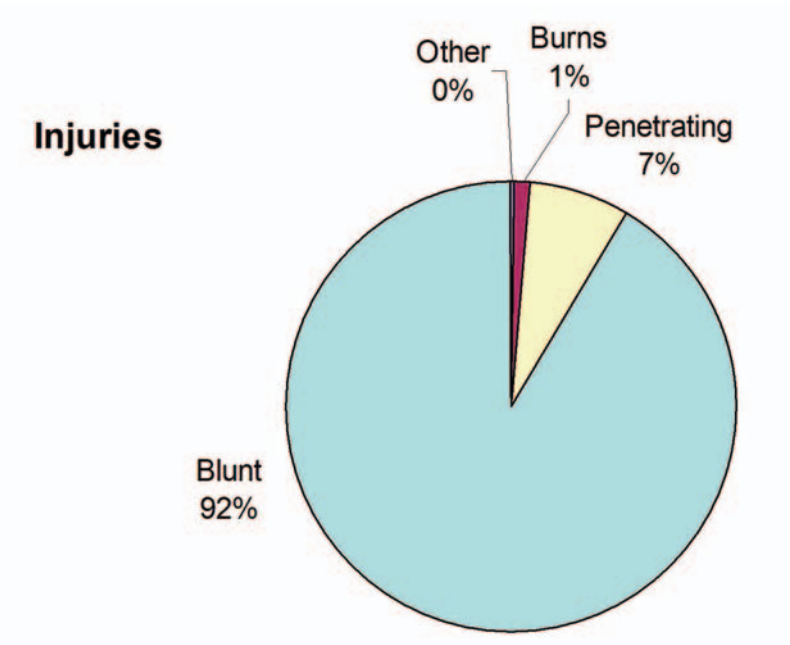
Glascow Coma Scale (GCS)

It is a standard measure used to quantify level of consciousness in head injury patients. It is composed of three parameters: best eye response, best verbal response, and best motor response. The lowest GCS total would be a 3 and the best score would be 15.

Most common Mechanism of Injury for the 1851 adult trauma patients seen in 2007 were:



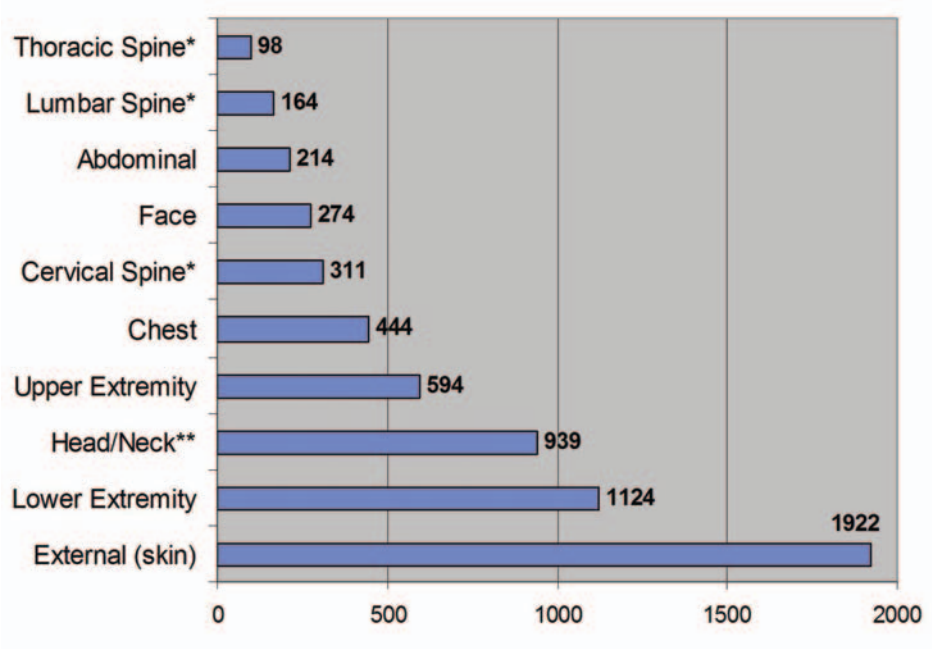
Taking all trauma patients into consideration, their injuries were:



Penetrating trauma is an injury that pierces the skin (such as a bullet or knife).
Blunt trauma is caused to a body part by impact, injury or physical attack that does not penetrate the skin (such as a steering wheel impact in a car crash).

Injuries by Body Region

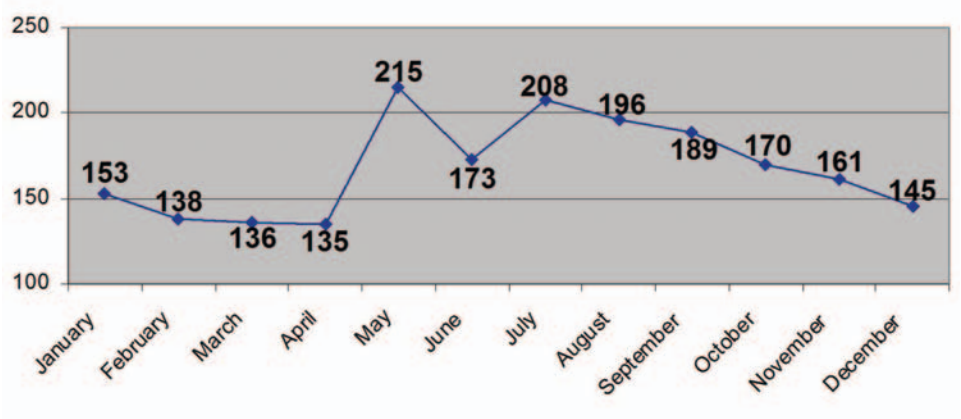
6084 Body Regions were evaluated.



* includes sprains and strain
** includes concussion

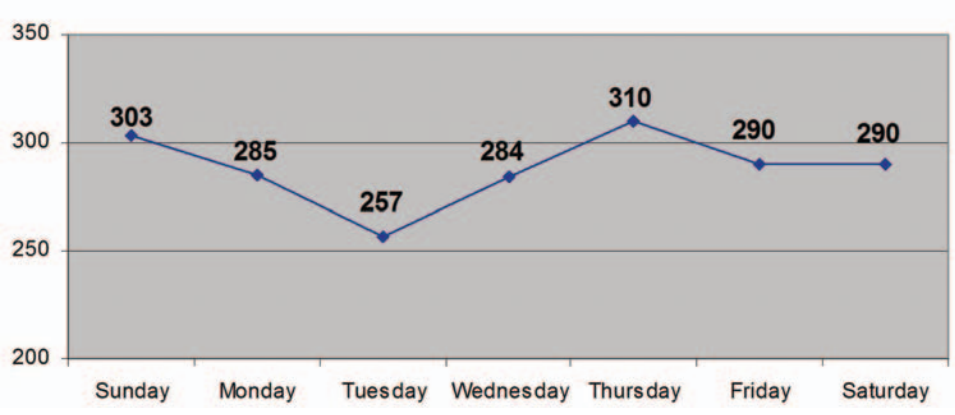
Trauma Admits by Month

Trauma admissions were higher in the warmer months, with a peak in May.



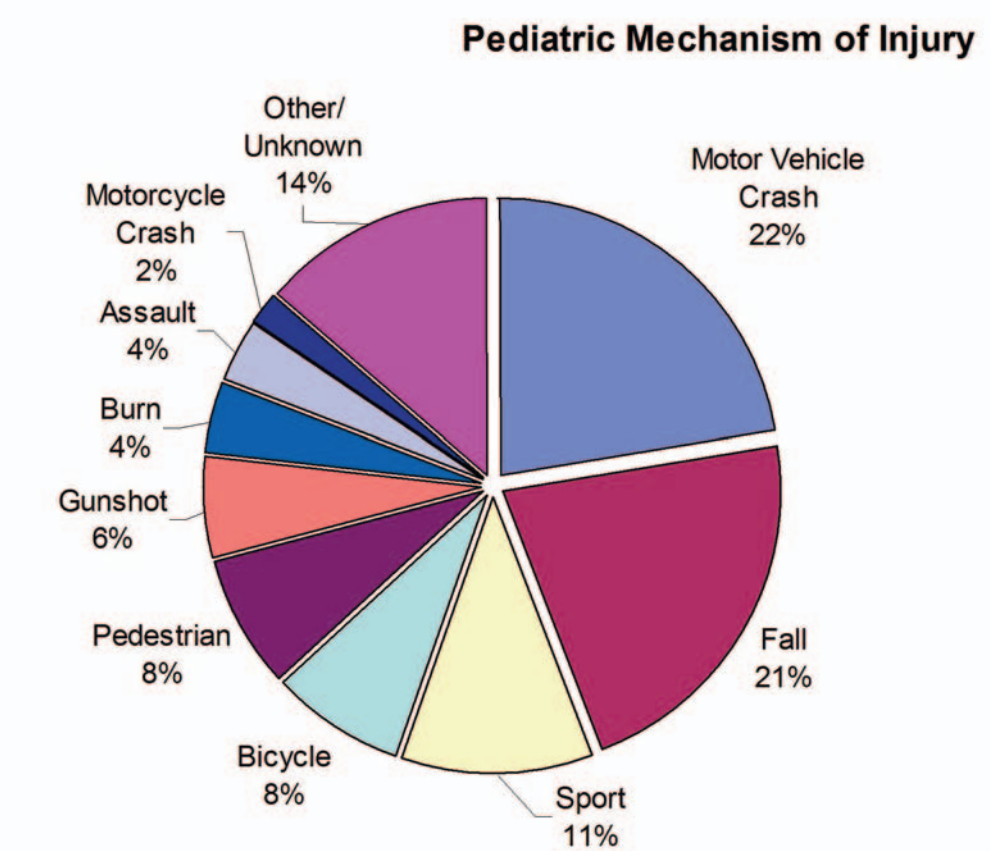
Trauma Admits by Day of the Week

Thursdays were the busiest day of the week at the Trauma Center.

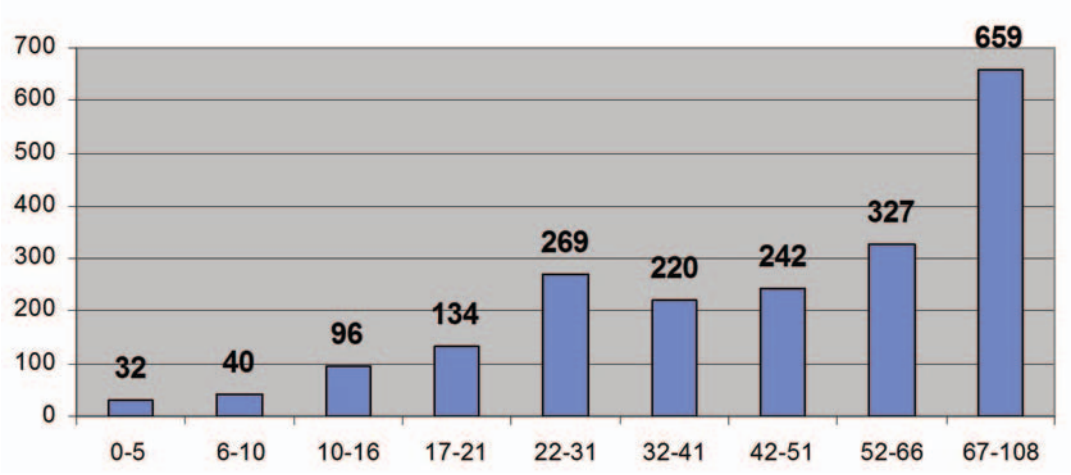


Special populations reacts uniquely to a traumatic event. Pediatric patients are not just "little adults." There are important differences in the assessment of the traumatically injured child.

Pediatric Trauma (<=16 years of age)
8% of all Trauma Patients are classified as pediatric.



Trauma Patients by Age Gruop



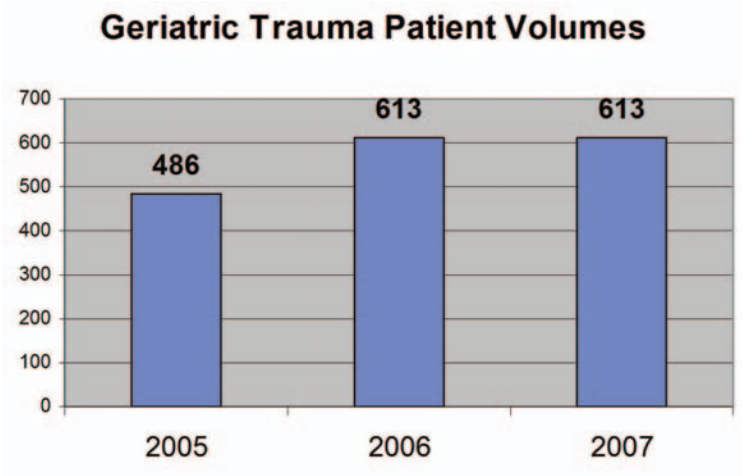
Geriatric Trauma

A state-wide geriatric trauma task force was established in 2005 to evaluate data in the Ohio Trauma Registry to determine if elderly patients had special needs. The task force had two goals:

- to find at what age should a person be considered a geriatric trauma patient, and
- to develop triage criteria that EMS and emergency department personnel should follow before transporting an elderly patient.

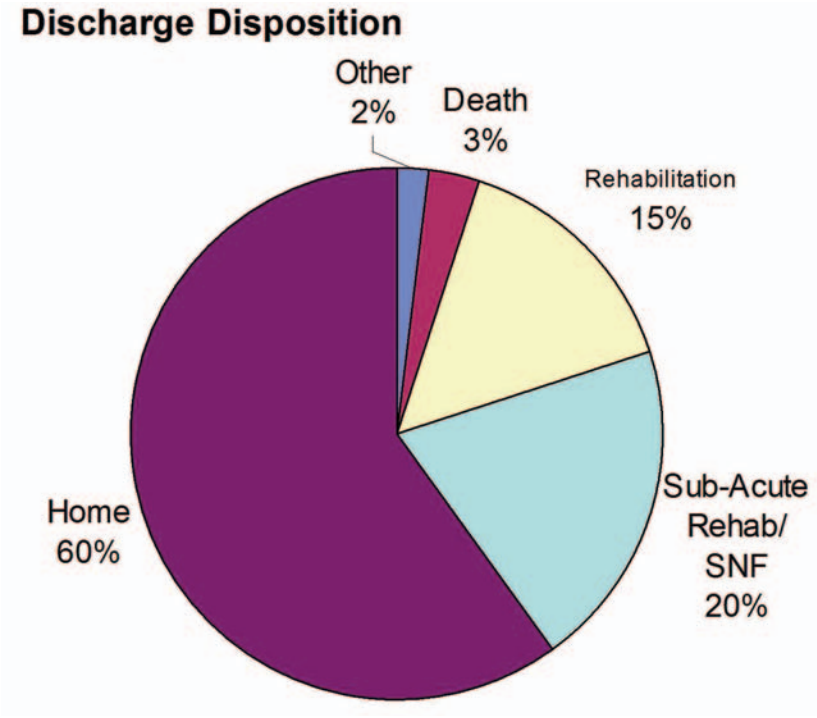
Through scientific and statistical analysis of the OTR data, the task force found that, for the purposes of trauma care, age 70 is when a patient should be considered geriatric. The data also led the task force to established several additional indicators that may be used in deciding if the injured geriatric patient should be sent to a trauma center for treatment.

Between 2005 to 2006 there was a 26% increase in geriatric trauma patients that was maintained in 2007.



Ongoing Care

To provide ongoing care to trauma patients, the trauma surgeons and advanced practice nurses provide follow-up care at the Ambulatory Care Center at St. Elizabeth Health Center. This provides continuity of care and allows the patient and family to return to a familiar setting for outpatient treatment, which may include post-discharge wound care, medications or other services as needed.



Community Outreach and Injury Prevention

Trauma is the leading cause of death for patients ages 1-44 and is the fourth leading cause of death for all Americans. Many of these deaths, as well as other injuries, are preventable. As a verified Adult Level I Trauma Center, St. Elizabeth's is responsible for providing regional leadership on trauma prevention and education. The Trauma Center offers many educational programs for both healthcare professionals and the community, including:

- Advanced trauma life support courses – trauma care updates for physicians
- Trauma Nursing Core Courses – continuing education for nurses
- ENCARE – trauma nurses helping teens understand the dangers of alcohol use
- SAVE- Students Against Violence Education
- Trauma Nurses Talk Tough – program for alcohol, drug, and auto safety for all ages

While traumatic injury continues to occur in the community, the good news is that education can and does make a difference. Education and prevention efforts have made a real impact on public awareness in recent years.

"Bike helmets are a good example," said M. Ben Melnykovich. "When I was young, we didn't wear a helmet. Today, you see many people who use a helmet routinely." He also noted progress on seat belts, greater public recognition of the importance of infant car seats and growing awareness of the danger of falls, particularly among the elderly.

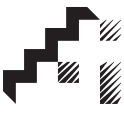
The Injury Prevention Program works with at-risk teens through our SAVE program as well as pre-prom assemblies, and mock crashes sponsored throughout the three county area. Through the combined efforts of SEHC, Clemente Ambulance, Boardman Fire Department, STAT MedEvac, and Boardman High School, a staged disaster was held in close proximity to prom time to remind the students to "make the right choice" that may mean the difference between life and death.

The Victims Impact Panel is another area where our program is utilized to speak to court mandated persons convicted of a DUI offense. These are held every month in Canfield, Ohio. We will also be rolling out a new gun safety program targeting elementary school aged children to bring awareness to the danger of loaded firearms.

As the only Level 1 trauma center in the region, SEHC takes the lead role to further develop a regional trauma system.

The Region 10 Physicians Advisory Board council continues to strive work within the guideline as presented by the State of Ohio. The region is large and stretches from Lake Erie in Ashtabula County in the north, down to the Ohio River in Columbiana County in the south and has a variety of typographies of urban, suburban, agriculture, and rural areas. Input is gained from many individuals, institutions, physicians, nurses, EMS, firefighters, administrations, helicopter services and a variety of other individuals are involved in this process.

Report Contributors:
Daneen Mace, RN, BSN, ONC
Renee Merrell
Sally Hammel



ST. ELIZABETH
HEALTH CENTER
Humility of Mary Health Partners

1044 Belmont Avenue
Youngstown, Ohio 44501-1790
330.480.3907

HMpartners.org