

Teacher's Guide

HELP IS HERE

Emergency Medical Services in New York

November 20, 2004 – September 11, 2005



1939 Pontiac-Superior Ambulance
New York State Museum Collection, H-1985.71.1
Gift of the Adirondack Museum

15 Ambulances Dating from 1911 to the Present
Medical Equipment
Ambulance Agency Memorabilia
Historical Photographs

NEW YORK STATE MUSEUM

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The University of the State of New York
The State Education Department

TEACHER BACKGROUND INFORMATION ON EMERGENCY MEDICAL SERVICES (EMS) IN NEW YORK STATE

In the twenty-first century, we expect medical help to come to the aid of the seriously ill or injured no matter where that might be. Thanks to a network of volunteer, non-profit and commercial agencies, ambulances in both the most densely populated cities and the least settled rural areas bring us medical providers who treat and transport patients to hospitals for definitive care.

It hasn't always been this way. Until the nineteenth century, emergency departments did not exist as we know them today. In the cases of severely afflicted patients, physicians gave medical care in patients' homes or wherever the injured and sick might be.

As hospitals came into being in urban settings, medical staff could provide services beyond the capabilities of individual doctors. Following the initial use of horse-drawn ambulances in military campaigns, including the American Civil War, similar vehicles began to bring patients to hospitals in New York's cities. In more rural areas beyond the hospital network, first aid and ambulance transport would come only with the general use of automobiles. In the meantime, those seeking emergency treatment waited for a doctor to arrive or sought their own means of transport to medical help.



American Red Cross volunteers loading a patient on Staten Island in 1917 or 1918.
Image courtesy of the American Red Cross Museum. All rights reserved in all countries.

THE FOLLOWING SECTION IS HISTORICAL INFORMATION ABOUT MEDICAL SERVICES FROM EXHIBITION PANELS.

Emergency Medical Services 1869-1915

1869

With the first use of a Bellevue Hospital ambulance in Manhattan, emergency medical service had its start in New York State. In the following decades, ambulance transportation was limited to urban areas. Hospitals operated horse-drawn ambulances into the twentieth century, with a driver and physician attendant. The physician was prepared to administer medicines and even do minor surgery.



1900s

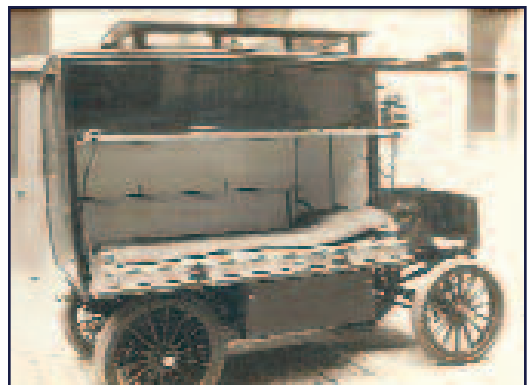
In June, a self-propelled electric ambulance went into service at St. Vincent's Hospital in New York City. The vehicle was built by Frederick R. Wood and Son and had a speed of fifteen miles per hour and a range of twenty-five miles before requiring recharge of the batteries.



1910s

More motorized ambulances, including those powered by internal combustion (gasoline) engines were in use in New York's cities.

Specialty manufacturers were building motor ambulances, often variations of hearse bodies. Builders used chassis produced by others or assembled their own.



Emergency Medical Services 1915-1960

1920s

In many places, funeral homes provided ambulance service. If a dedicated ambulance was unavailable, a hearse or combination hearse-ambulance often transported patients to hospitals. Standard equipment on ambulances included a removable cot on wheels and a seat for the attendant.

Top: A Flower Hospital (New York City) ambulance on a hurry call to a patient, ca. 1910. *Photo courtesy of the New York City EMS Museum.*

Middle: This 1910 New York Hospital electric ambulance used batteries and was self propelled.

Bottom: This battery powered electric ambulance from 1909 has a platform that could be removed to serve as a stretcher. *Photo courtesy of the New York Weill Cornell Medical Center Archives.*

Provision was made for heating the patient compartment with some deluxe ambulances featuring hot and cold running water.

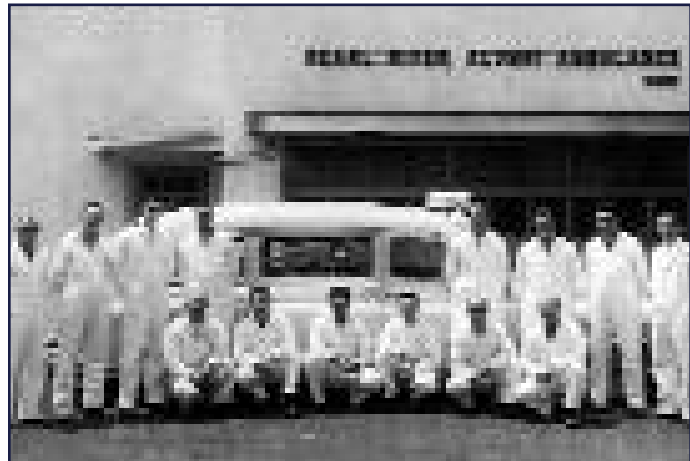
1930s

After motor vehicles became common in rural parts of New York State, volunteer ambulance agencies usually organized, under the auspices of local fire departments. Equipment in the patient compartment often was limited to a stretcher, linens, splints and dressings. Sometimes resuscitators and oxygen tanks were carried, and the first radio communications took place.

1950s

American Red Cross first aid hand-books served as the standard for treatment provided by ambulance attendants who were not physicians. Attendants continued to concentrate on transporting patients to the hospitals rather than on medical care. By the 1950s, better-trained ambulance personnel (non-physicians) were prepared to clear airways, perform artificial respiration, control bleeding, splint fractures, assist in childbirth, and deal with poisonings.

The 1950s began an era when for-profit specialized companies provided service in many large cities, displacing ambulances run by hospitals and funeral directors.



The Pearl River Alumni posed with their second ambulance, a 1951 Cadillac-Superior in front of their new quarters on North Pearl Street. Banrock Studio photograph courtesy of the Pearl River Alumni Ambulance Corps.

Emergency Medical Services

1960-2000

Pre-hospital care changed radically in the second half of the twentieth century. This revolution was due to advances in medicine, especially in the rapid treatment of heart attacks and of trauma that, in part, came out of the war in Vietnam. In addition, the standards of the National Highway Safety Act of 1966 required comprehensive training and certification of ambulance personnel. Emergency Medical Technicians (EMTs), become as much health care providers as transporters.

Ambulances carried much more sophisticated equipment, such as defibrillators.

During this time period, advanced EMTs with training and certification were now called paramedics.

In January of 1997, at a minimum a person certified to respond to an emergency had to staff each ambulance.

As of January 1, 2000, the minimum required to respond to an emergency with an ambulance was EMT certification.

Direct radio communication took place between the ambulances and hospitals. By the mid-1970s, the first such paramedics went into service in New York City.

By the late 1990s, each ambulance was certified to provide a specific level of patient care, the minimum being that offered by basic level EMTs.

In 1996, municipal EMS in New York City became part of the Fire Department of New York, now the largest EMS operation in the country.

In 1970, the State Department of Motor Vehicles registered 1,900 ambulances, with 621 in New York City.

In 1990, the New York State Department of Health documented 1,180 ambulance operations, with 46,247 people (81% volunteers) certified to provide emergency medical services at various training levels.

There were 46,247 people certified to provide emergency medical service at various levels in 1990 and volunteers comprise 81% of all service providers.

Emergency Medical Services Today

Non-profit agencies, both independent operations and those associated with fire departments, comprise the largest group of EMS providers in New York State. Hospitals, once the key component in municipal ambulance service, continue to provide significant ambulance response.

Volunteer ambulance services across the State are the primary EMS providers in rural and some suburban communities. The number of times that these ambulances attend emergencies is much smaller than urban providers and the distance that they travel to hospitals is usually much greater. For-profit ambulance operations account for most of the million-and-one-half emergency calls (and as many non-emergency transports) in the state each year. Commercial ambulances serve many of New York's large cities, although in some cases they work cooperatively with public safety emergency medical agencies. For example, the Albany Fire Department provides paramedic treatment in the field while commercial ambulances transport and treat patients en route to city hospitals.

Compared with the service provided 50 years ago, ambulance squads of all types offer much more advanced levels of emergency medical care as well as express rides to hospitals.



*1996 Ford-AEV (American Emergency Vehicles) rig.
Wayne Hansen photograph courtesy of TLC
Emergency Medical Services, Inc.*

TEACHER BACKGROUND INFORMATION ON THE EXHIBITION



In 1989, Myron Gittell, a nurse, EMT and ambulance collector, came to the New York State Museum and saw the fire apparatus exhibit. Mr. Gittell inquired about the lack of ambulances in the firefighting gallery, a query that was directed to Geoffrey Stein who is the curator of the fire apparatus exhibit. Within a short time, the two men developed a proposal for an ambulance exhibit.

The Museum's temporary exhibitions committee rejected this proposal. After the September 11th, 2001 catastrophe and with the subsequent important role that the New York State Museum played in commemorating and interpreting the events of that day and later, a new appreciation for emergency workers of all types was born. The exhibit proposal was resubmitted and accepted by the temporary exhibition's committee, which put the exhibition on the calendar.

Once again, Myron Gittell played a key role in volunteering his time and knowledge in finding many of the vehicles scheduled for display in this exhibition. All but one ambulance and almost all of the medical equipment in "Help is Here" is borrowed. The very long list of lenders includes ambulance squads, municipalities, museums, and individuals.

EXHIBIT GOALS

- To exhibit and interpret artifacts of pre-hospital and hospital era emergency medical transport (ambulances) and treatment (medical equipment) from the twentieth century.
- To present museum visitors an outline of the evolution of emergency medical services from the post-Civil war era to present.

EXHIBIT CONTENTS

THE LARGE EXHIBITION HALL:

- Fifteen ambulances representing distinct time periods or types of emergency medical transport.
- Artifacts of ambulance design and construction (i.e., builder's design drawings, etc).
- Artifacts of patient retrieval (i.e., rescue litters, stretchers, etc).
- Four ambulances are open for an interior view
 - 1939 Pontiac-Superior
 - 1974 Cadillac-Miller-Meteor
 - 1997 Ford-Horton
 - 2004 Ford-McKay Miller

THE SMALL ATTACHED EXHIBITION HALL:

It is divided into four groups pertaining to emergency medical services

- Ambulance Operations and Communications
- General Medical Equipment
- Heart and Lung: Cardio-Pulmonary Emergency Equipment
- Broken Bones: Trauma

STANDARDS THAT CAN BE ADDRESSED WHILE VISITING THIS EXHIBIT

NYS LEARNING STANDARD: MATHEMATICS, SCIENCE, AND TECHNOLOGY

- Standard 5 – Technology
 - 5.5: History and Evolution of Technology
Teachers can address how medical technology has advanced since 1869.
 - 5.6: Impacts of Technology
Teachers can address how the positive and negative impacts of technology across time affected society and individuals.
- Standard 6 – Interconnectedness: Common Themes
 - 6.5: Patterns of Change
Teachers can help students to identify how ambulances have changed over time and the effects of these changes upon emergency medical services over time.

- Standard 7 – Interdisciplinary Problem Solving
 - 7.1: Connections
 - Teachers can address how science and technology work together to develop new medical practices.

NYS LEARNING STANDARD: ENGLISH LANGUAGE ARTS

- Standard 1.1 – Language for information and understanding: Listening and reading
 - Teachers can direct students to read text labels for information in the exhibit.

NYS LEARNING STANDARD: SOCIAL STUDIES

- Standard 1 – History of the United States and New York
 - 1.1: Development of American culture
 - Teachers can address the evolution of emergency medical practices in the twentieth century.
 - 1.2: Important cultural values
 - Teachers can address how emergency medical treatment in New York State was given and how decisions about medical treatment were made.
 - 1.4: Change across time
 - Teachers can address how emergency medical treatment in New York State has changed over time.

A TOPIC TO EXPLORE WITH STUDENTS OF ALL AGE LEVELS

In conjunction with the Help is Here exhibit, teachers and students can research how to volunteer for local fire departments for fire fighting and for providing emergency medical treatment. Teachers can take their students to visit local fire departments and receive information explaining how people become volunteers in this field.

STUDENT ACTIVITIES

- Each visit activity may or may not include a pre-visit or post-visit activity to do.
- Please bring something upon which students can write. Using walls to write upon is not allowed in the Museum.
- Please feel free to adapt any part or all of an activity to meet the needs of your class and curriculum.
- Please feel free to share or to distribute the contents of this guide with colleagues.

SUGGESTED ACTIVITIES FOR ELEMENTARY STUDENTS

PRE OR POST-VISIT ACTIVITY:

SKILL GOALS:

- Write to transmit information.
- Present information clearly, concisely, and comprehensibly.

CONTENT GOALS:

- Organize information according to an identifiable structure

LEARNING STANDARDS:

- English Language Arts 1.2
- Social Studies 3
- Health 2.1

Students can create an evacuation plan for the classroom (or for the whole school with older age students). Students should think about the steps necessary to get out of their building in the event of an emergency. They can draw a map with two (or more) possible routes out of the building and write step-by-step instructions for other members of the class. Once the plan is complete, students can trade maps and instructions with one another. Compare students' routes to the official school evacuation plan.

An adaptation of this activity is to have a class work on an evacuation plan as a group. Another neighboring class can also work on an evacuation plan as a group. Once each class completes their plan, they can trade the plan with each class. The students can compare and contrast the routes each class developed. They can also compare and contrast the two plans to the school official emergency evacuation plan.

VISIT:

SKILL GOALS:

- Write an analysis (analytical list)
- Evaluate information
- Make a drawing

CONTENT GOALS:

- Draw and form opinions about differences
- Analyze, interpret and evaluate information
- Make art work

LEARNING STANDARDS:

- English Language Arts 3.2
- The Arts 1
- Mathematics, Science and Technology 5.4, 5.5 and 5.6

This activity emphasizes the skills of comparing and contrasting. To prepare for this activity, please bring pencils, sheets of blank paper, and something upon which students can write.

- The students choose two ambulances and draw them.
- The students create a list of the differences between the two ambulances.
- Older students can write down a list of differences.
- In the classroom, the students can share with the class their drawings and lists.

Or:

- The students choose one ambulance and draw it. Include details of features such as equipment, ladders, and so on.
- The students find another student to work with who drew a different ambulance from the one that they drew.
- The students with their partner then compare the differences in the ambulances that they drew.
- Older students can write down the list of differences to share in class when they return.

SUGGESTED ACTIVITIES FOR JUNIOR HIGH OR HIGH SCHOOL STUDENTS

VISIT:

SKILL GOALS:

- Write inferences
- Make comparisons across eras
- Contrast developments of emergency medical services across eras
- Discuss/speak about conclusions drawn and information found

CONTENT GOALS:

- Significance of historical evidence
- Understand the importance of historical developments
- Speaking and writing to acquire and transmit information

LEARNING STANDARDS:

- Social Studies 1.2
- Social Studies 1.4
- English Language Arts 1.2

In the Help is Here exhibition, the students can pick two ambulances from different eras about which to write. For example, the students might choose the S & S Cadillac ambulance from 1967 and the Miller-Meteor ambulance from 1957. The students can write down a list of all the features for each ambulance on a piece of paper.

Once they have looked closely at the ambulances and made their lists, have the students enter the "Patient Care" section of the gallery. In this gallery, the students can look through the variety of medical equipment and list what equipment might have been carried in each ambulance (please note that there is not much medical equipment in the exhibit prior to the 1950s). It is important to stress to the students that they need to keep the year of the ambulances they chose in mind when listing the equipment that might have been carried because the ambulance's year will correspond with what kind of medical equipment was stocked.

When the students have completed their lists of both the ambulance features and the medical equipment possibilities, have the students walk to the back of the exhibit and look closely at the Ford-Horton ambulance from New York City's Fire Department. The students can discuss in a group or write individual lists about the features of this ambulance along with a discussion of the kinds of medical equipment that would be carried today.

With this information about the Ford-Horton ambulance written, the students can then visit the World Trade Center Exhibition. In this exhibit, the students can make comparisons about what the emergency medical response might have been to the collapse of the Trade Center had the ambulances they chose responded to the tragedy. For example, what would the response of the Miller-Meteor ambulance from 1957 have looked like? Finally, what did the response in 2001 with ambulances similar to the Ford-Horton look like? In this discussion, the students can consider what the strengths and weaknesses for each ambulance responding to 9-11 might have been.

SCAVENGER HUNT WORKSHEET

THIS WORKSHEET IS TO BE USED IN THE EXHIBIT HALL. PLEASE MAKE ONE COPY FOR EACH STUDENT BEFORE YOUR VISIT TO THE MUSEUM.

SKILL GOALS:

- Contrast and compare emergency vehicles and equipment
- Explore the use of emergency medical equipment
- Explore efficiency measures for emergency medical equipment

CONTENT GOALS:

- Learn about the differences between a variety of equipment
- Explore how the emergency vehicles and equipment operated
- Learn how people solved problems through attending to patients

LEARNING STANDARDS:

- Standard 5.2 – Technology: Tools, Resources and Technological Processes
- Standard 7.2 – Interdisciplinary Problem Solving: Strategies

SCAVENGER HUNT

1. Not every ambulance makes the same sound to warn people it is coming. Find the different ways each ambulance makes sounds.
2. Find two ambulances that have cabinets built in them. What are the cabinets used for?
3. What things are used to carry and to transport patients?
4. How were medical items stored, or carried, in the 1917 Dodge and the 1974 Cadillac-Miller Meteor? Make a list to compare and contrast how efficiently this storage might have or might not have worked.
5. If someone had a heart attack, what instruments were used to help that person in 1960?
6. In the early 1900s, ambulances were used for multiple purposes. Name the different uses for ambulances.
7. Find the equipment designed for use in a nuclear attack.

SCAVENGER HUNT ANSWERS

1. Gongs (1911 & 1918), bells, sirens, lights
2. 1974, 1997, 2004
Cabinets were used for storage and more medical equipment
3. Stretchers (reeves, scoop), Stokes basket, Stair chair
4. 1917 – medical bags and boxes were used
1974 – built in cabinets and medical bags
The students “compare and contrast” answers will vary.
5. In 1960, CPR was used
6. Hearses, transporting patients, treating patients, parades
7. Trauma kit – several items are in the kit

GLOSSARY

Airway: (noun) a passage for air into the lungs.

Ambulance: (noun) a vehicle/van that carries a person who is sick or hurt to the hospital.

Ambulance Attendant: (noun) a person who does not necessarily have medical training but who rides in the ambulance with the sick or hurt person.

Artificial Respiration: (noun) the rhythmic forcing of air into and out of the lungs of a person whose breathing has stopped (www.webster.com); this is a medical treatment used to help a person breathe.

Chassis: (noun) the support frame of the ambulance.

Cot: (noun) a bed for transporting patients, which can be taken down and set up easily.

Dressing: (noun) bandages used for covering a wound; (verb) the process of covering a wound.

Defibrillator: (noun) an electronic device that applies an electric shock to restore the rhythm of a fibrillating heart (www.webster.com); a piece of medical equipment that helps the heart to start beating.

Emergency Medical Personnel: (noun) the people who drive the ambulance, attend the patients and provide medical services.

Emergency Medical Technician: (noun) people who can provide medical services on an ambulance.

First Aid: (noun) emergency treatment given to a hurt or ill person.

Fractures: (noun) breaks in bones.

Health Care Provider: (noun) a person who gives medical help to a patient.

Hearse: (noun) a vehicle that carries dead bodies to the grave site.

Heart Attacks: (noun) this is damage to the heart muscle.

Hospitals: (noun) a place where sick and hurt people are given medical treatment.

Intubation: (noun) the introduction of a tube into a hollow organ such as the trachea. (www.webster.com)

Life Support Techniques: (noun) ways through medical treatment to help a person continue to live.

Linens: (noun) cloth used to cover things, such as beds.

Oxygen Tanks: (noun) equipment that carries oxygen for use with helping people breathe.

Paramedics: (noun) a specially trained medical technician licensed to provide a wide range of emergency services (such as defibrillation and the intravenous administration of drugs) before or during transportation to a hospital (www.webster.com); people trained in emergency medical techniques who work on ambulances for the purpose of treating ill or injured people at the place where the people are found.

Resuscitator: (noun) an instrument that is used to revive someone who can't breathe.

Splints: (noun) pieces of plastic or wood used to keep a broken leg straight and in place.

Stretcher: (noun) a cot used to carry a sick or hurt person; some stretchers are carried and some are on wheels and pushed.

Transporters: (noun) people who ride with the sick or hurt person to the hospital but may not be able help the person.

Trauma: (noun) an injury (as a wound) to living tissue caused by an extrinsic agent <surgical trauma>; a disordered psychic or behavioral state resulting from mental or emotional stress or physical injury; an agent, force, or mechanism that causes trauma (www.webster.com); a serious injury to the body that is caused by some outside source such as a blow to the head.

TEACHERS' GUIDE EVALUATION

Name of School _____

Date of Visit _____

Name of lead Teacher _____

Grade Level(s) _____

Teachers' Guide Used _____

GUIDE CONTENT

Excellent Good Average Poor Very Poor Not Applicable

EDUCATIONAL USEFULNESS

Excellent Good Average Poor Very Poor NA

EASE OF USE

Excellent Good Average Poor Very Poor NA

HOW DID YOU LEARN ABOUT THE GUIDE?

Friend Internet NYS Museum Colleague

WHAT DID YOU LIKE MOST ABOUT THIS GUIDE?

WHAT NEEDS TO BE IMPROVED?

ADDITIONAL COMMENTS:

Thank you for your participation in this evaluation.

Please fax or mail this evaluation to:
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