

Provision of Emergency Medical Systems

In fiscal year 2007, for the seventh consecutive year, the number of fatalities from traffic accidents has decreased. It was less than 6,000 persons for the first time in 54 years. There are many factors that have caused the number of fatalities to decrease in recent years. The provision of rescue and emergency medical systems is one of the major factors. On one hand, the demand for emergency medical care is increasing, however, on the other hand, reinforcements for emergency and rescue teams are in a difficult situation. Medical institutions that handle emergency patients are also decreasing, causing a delay in the average time taken by an ambulance to reach the site and the average time required for admission in medical institutions. In Fukushima Prefecture, eight cases in which medical institutions refused the admission of traffic accident casualties occurred in four medical institutions on 11th November last year and six such cases occurred in five emergency and critical care centers in Osaka Prefecture on 2nd January this year. In these cases, the emergency medical transportation service was not provided smoothly. Therefore, the provision of a smooth emergency transportation service and medical system has become a prime task. With this situation in mind, the “Research Group for the Coordination of Fire Institutions and Medical Institutions” was established in the Fire and Disaster Management Agency. A continuous study on how to collect information on admissions in medical institutions and how to transmit information from the fire service to medical institutions was carried out and an interim report was summarized in March 2008. Additionally, a “Review Meeting Regarding the Role of Emergency Medical Care in the Future” was held by the Ministry of Health, Labour and Welfare in December 2007, and it is to collect the information about the role of emergency and critical care medical services in the future. Concerned institutions are working in cooperation for the resolution of a number of issues to maintain the safety and security of citizens.

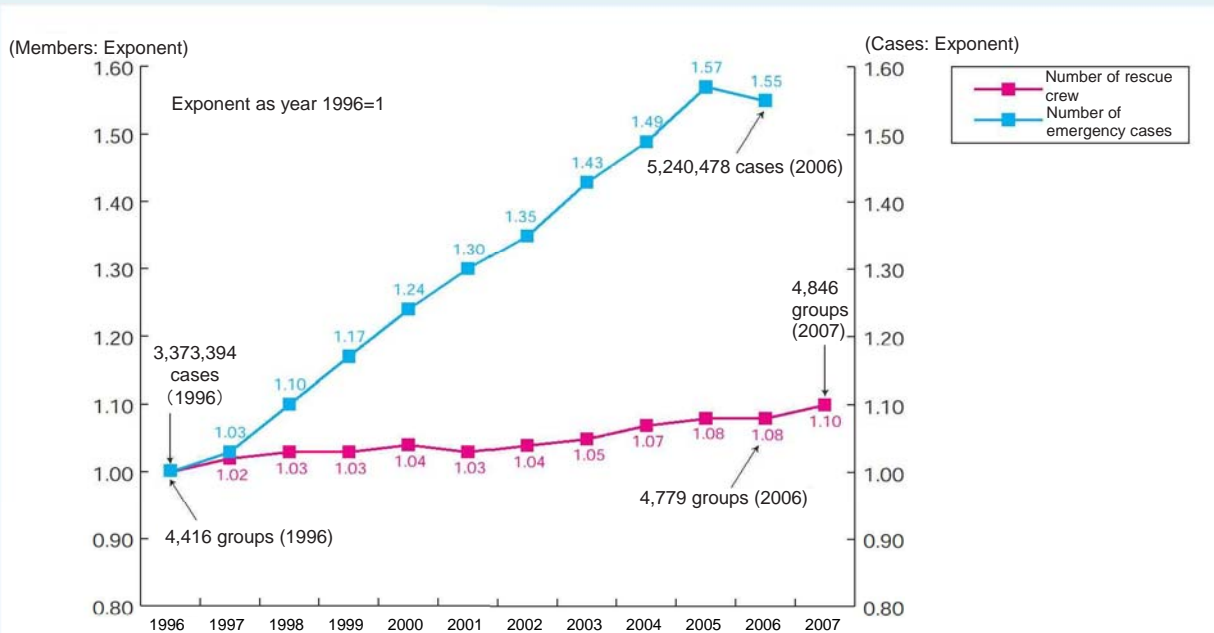
Rapid increase in the demand for emergency services—Current situation and measures

The number of emergency cases reached 5,240,000 in 2006 and this number is increasing each year. Since 1996, the number of emergency cases increased by approximately 55% in 10 years. However, the number of rescue teams increased only by approximately 10% during the years 1996 to 2007 due to a severe financial condition of each fire headquarters.

During 2006, the national average time required by an ambulance to reach the site was 6.6 minutes, and the national average time required until admission in a medical institution from the point of knowledge of the accident was 32.0 minutes.

In terms of the number of transportation staff by ambulances according to the kind of accidents, the number of traffic accidents that used to be stable is decreasing.

Transition of the number of emergency and rescue teams and of emergencies



Note 1 Source: The Fire and Disaster Management Agency
 2 The number of emergency crew is the current number as of April 1 for every year.
 3 The number of emergency cases is the number from January to December for each year.

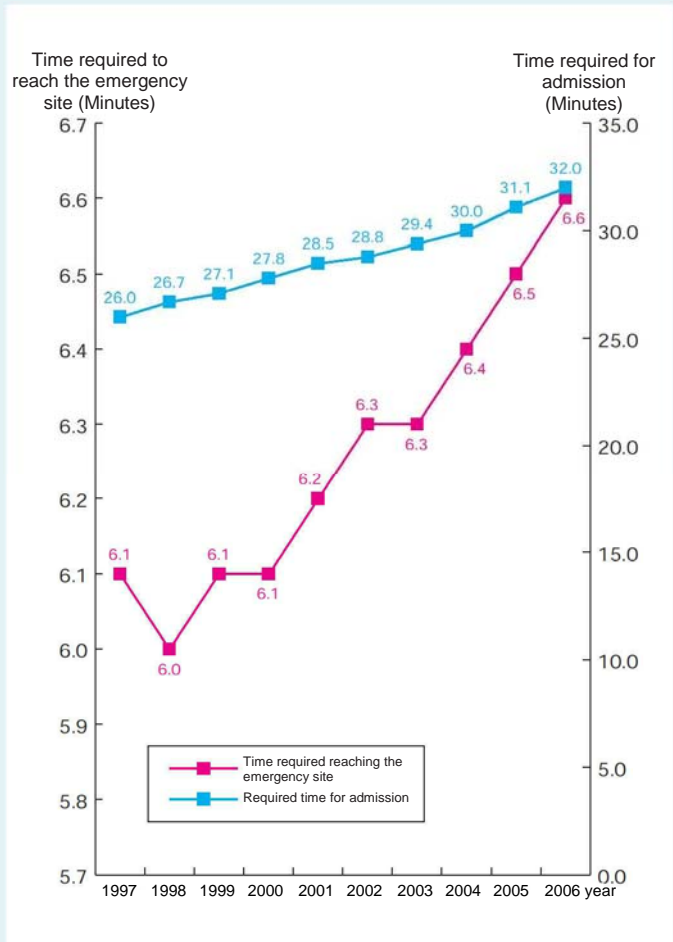
Though the total number of transportation staff has been increasing, transportation staff for traffic accidents has been decreasing since the year 2002 and the composition ratio is also decreasing each year.

In the future too, the demand for emergency services will increase due to the growing aging population and solitary living population. The fire department therefore carried out a comprehensive examination to measure the demand for emergency services by establishing “Investigative Commission for Emergency Demand Measures” and “Investigative Commission for Utilization of Private Sector in Emergency Medical Transportation Services” in fiscal year 2005 and “Investigative Commission for Triage in Hospital Emergency Services” in fiscal year 2006. As for emergency medical transportation, since there are many inquiries to medical institutions and cases of delay in transportation are occurring frequently, efforts are being made to try and strengthen further cooperation between concerned organizations including medical institutions and fire services.

The current situation and measures for emergency medical systems

There is a decreasing trend for emergency hospitals and emergency clinics that admit injured and sick persons. The number of secondary

Transition of time required to reach the site of emergency and time required for admission



Note Source: The Fire and Disaster Management Agency

Emergency medical transportation staff by traffic accidents (Ambulance)



Note Source: The Fire and Disaster Management Agency

emergency medical institutions that admit critically ill patients requiring hospital care, provided by prefectures for each decided medical care zone, has decreased by 191 over the last 10 years from the year 1997.

On the other hand, the tertiary emergency medical care facilities (critical care centers and new critical care centers) that admit seriously ill patients that cannot be treated in the second emergency medical care facilities have increased by 65 in 10 years.

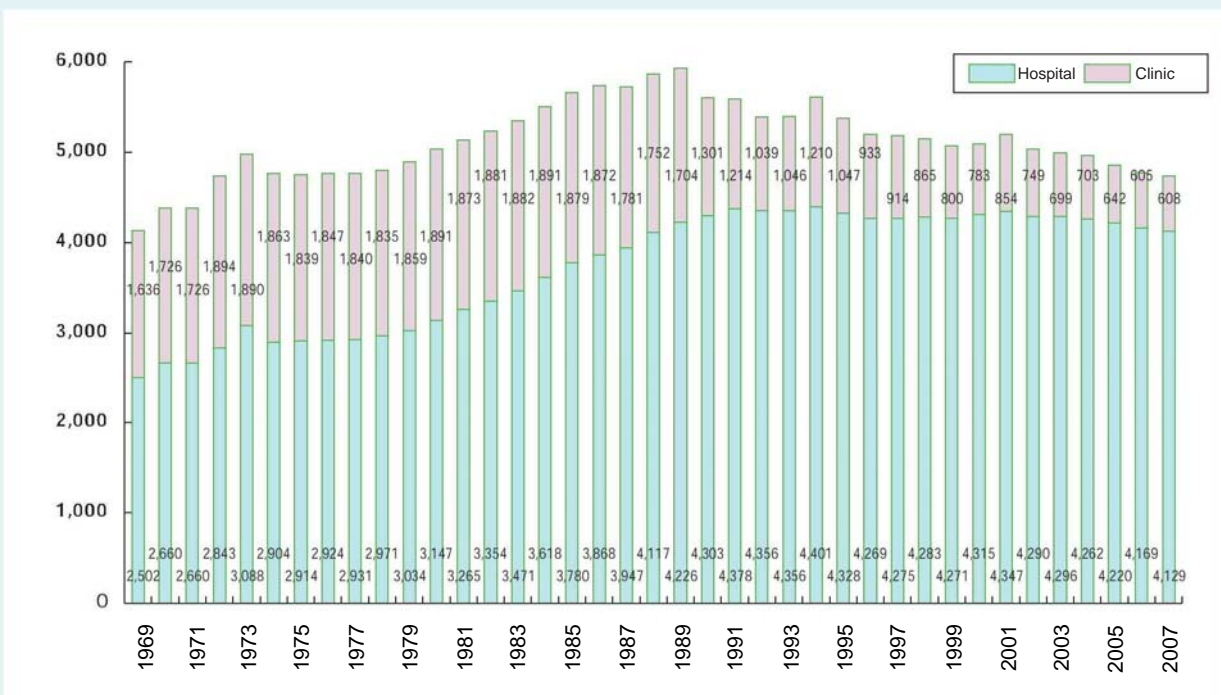
In the Fire and Disaster Management Agency, in response to increase in the cases where the emergency services had to consult a number of medical institutions for admission, a field survey such as an acceptance condition of medical help at emergency transportation was conducted on January 2008. In addition, the field survey was conducted for emergency transportation of obstetrical services and prenatal care for injured and sick people from the year 2004 to 2006, over a period of 3 years. This was done to understand the condition of the obstetrical service and prenatal emergency system in cooperation with the Ministry of Health, Labour and Welfare in the year 2007 (From September to October). Based on the results of these surveys, reports are produced for implementing a smooth emergency transportation and reception system by the "Research Group for the Coordination of Fire Institutions and Medical Institutions" established in the "Review Meeting for Promotion of Advanced Emergency Services" by the Fire and Disaster Management Agency in the month of March the same year. Steps that should be taken urgently to promote the use of emergency medical information system, to strengthen the coordination of fire institutions and medical institutions and to set up a plan to verify the emergency transportation have been noted.

Additionally, a "Review meeting regarding the role of emergency medical care in the future" was organized by the Ministry of Health, Labour and Welfare in December 2007 and since then the information about the role of critical care medical services in the future has been collected.

Moreover, to prepare the emergency medical system through these reviews, a doctor-helicopter (helicopters used in an emergency with a doctor on board) is deployed at 16 places (an increase of 3 places). Securing of a support system for emergency transportation by enhancing and improving new emergency medical information systems and assigning a coordinator for emergency patient reception is also promoted in the budget of fiscal year 2008.

Following the enactment of the "Act on Special Measures Concerning Securement of Emergency Medical Services, Using Helicopters for Emergency Care" in June 2007, the "Review Meeting Related to the Issues for the Promotion of Helicopter Use in Emergency Medical Services" was conducted by the Ministry of Health, Labour and Welfare and reviews are being performed.

Transition in the number of medical emergency notification facilities (From 1969 to 2007)



Note: The Fire and Disaster Management Agency

Important cases of recent emergency transportation system and medical care system for admission

August 2006	An issue occurred in Nara Prefecture: A pregnant woman falling unconscious during the intrapartum period in a hospital was refused admission by 19 hospitals of the same prefecture and Osaka Prefecture.
August 29, 2007	An issue occurred in Nara Prefecture: A pregnant woman was refused admission by nine hospitals of the same prefecture and Osaka Prefecture.
<u>November 11, 2007</u>	<u>In Fukushima Prefecture, an injured person in a road accident was refused admission by four medical institutions for a total of eight times.</u>
December 6, 2007	An issue occurred in Hyogo Prefecture: A sick person who required first aid for hematemesis was refused admission by 18 hospitals.
December 25, 2007	An issue occurred in Osaka Prefecture: a sick person who required first aid for emesis was refused admission by 30 hospitals for a total of 36 times.
<u>January 2, 2008</u>	<u>In Osaka Prefecture, an injured person in a road accident was refused admission by five emergency centers for a total of six times.</u>
January 6, 2008	In Miyagi Prefecture, an injured person who required first aid due to fire burn was refused admission by four medical institutions (including two emergency centers) for a total of five times.
January 8, 2008	An issue occurred in Tokyo: A sick person who required first aid for difficulty in breathing was refused admission by 11 hospitals.

Note Source: Survey by the Cabinet Office

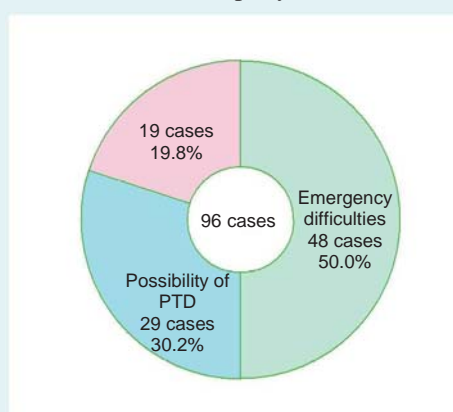
Preventable Trauma Death

In the Traffic Accident Investigation Commission of the Chiba Prefecture, third-party evaluation (peer review) was conducted for 96 cases to improve the quality of medical care for trauma. These cases were of traffic accidents fatalities (death within 24 hour) of persons under 80 years of age, having vital signs when emergency medical assistance arrived at the site, and they occurred in the same prefecture during the year 2004. Experts have conducted studies for issues of a trauma medical care system for accident casualties.

The result of the verdict by third-party evaluation is that, in a total of 96 cases, 48 cases are of emergency difficulties, 29 cases are possibly of PTD and 19 cases of PTD, i.e. half the number of people who was still alive when emergency medical assistance arrived at the site and 14.5% of the total fatalities of traffic accidents of that year in Chiba Prefecture was PTD. The result reveals the close relationship between the delay in emergency transportation time and worsening of conditions and the difference in the ratio of PTDs and possible PTDs among hospitals.

An investigative research for medical care aiming to reduce the number of traffic accident fatalities like these is unprecedented in Japan. According to the survey, the number of fatalities due to traffic accidents can be reduced by improving the quality of trauma medical care and the aftereffects of trauma can also be reduced. For the future, the aim is to reduce preventable trauma deaths (PTDs) and it is necessary to work on the promotion of new remedial education of standard trauma for rescue teams and doctors and reduction of time in starting the treatment by doctors, along with the continuous execution of these types of efforts.

Results of third-party evaluation



Data Provided: Investigative Commission of Traffic Accidents, Chiba Prefecture