

# Medical Support during the European Union Summit in Gothenburg, Sweden, June 2001

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## Abbreviations:

EU = European Union  
PPR = Patient Presentation Rate

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## Abstract

**Introduction:** Several factors are important for the number and severity of medical emergencies during mass-gatherings. The risk of violence, the size and mobility of the crowd, the type of event, weather, and duration of the event all influence the outcome. During the European Union (EU) Summit, from 15–16 June 2001 in Gothenburg, Sweden, approximately 50,000 people participated in 43 protest marches, some which included 15,000 participants. Clashes between police and the protesters occurred.

**Objective:** The objective of this study was to analyze the amount and character of injuries as well as the medical complaints in relation to the EU Summit. In addition, the aim of this study was to describe the organization and function of the healthcare services provided during the meeting.

**Methods:** This study is based on the medical records of patients presenting with injuries and other types of medical emergencies at the healthcare stations during the Summit.

**Results:** In total, 143 patients sought medical care. Fifty-three (37.1%) were police officers. Most patients had minor complaints, but a few were seriously injured. The Patient Presentation Rate (PPR) was 2.7. Nine victims were hospitalized as high priority.

**Conclusion:** The PPR for the EU Summit was 2.7, which is in the same range as previously reported from other mass-gatherings.

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## Introduction

Sweden was the chair-country of the European Union (EU) during the first half of 2001. The European Council met in Gothenburg 15–16 June. The leaders of the member nations participated in the Summit, as did the Ministers of Foreign Affairs, the Ministers of Finance, representatives for the Parliament of the EU, interpreters, and about 1,000 people from different delegations. In addition, the Prime Ministers and Ministers for Foreign Affairs from 13 candidate nations joined the meeting. In total, the number of active participants was approximately 4,000.

The President of The United States, George W. Bush, met with the Prime Ministers and the Ministers for Foreign Affairs on 15 June, 2001. About 700 people accompanied the President, including journalists and photographers. Furthermore, the King and Queen of Sweden visited Gothenburg and held official audiences. The meeting also attracted approximately 4,000 journalists who reported from Gothenburg during the two days of the EU Summit.

Previous meetings also have attracted people exercising their legal rights to protest against the EU and the issues that were included in the political agenda. Some demonstrations at previous Summits have been non-violent, but others have ended in violent clashes between demonstrators and police officers (Nice, Prague). During the 2001 Summit, an estimated 50,000 demonstrators arrived in Gothenburg and participated in 43 different protest marches. Up to 15,000 people participated in some of the marches.

The Summit lasted for two days and the demonstrations occurred over three days in the center of Gothenburg. Gothenburg is a city with about 600,000 inhabitants. The area occupied by the center of the city is about 2.5 km<sup>2</sup>.

Prior to the Summit, the Intelligence Division of the Swedish police concluded that some groups would attempt to disturb the meetings and attract media attention to their political goals. Thus, the area in which the Summit was conducted as well as the areas in which the delegates were housed were cordoned off. Extra police officers from other parts of Sweden were mobilized and transferred to Gothenburg, where they participated in extra training prior to the Summit. Despite these measures and extensive preparations, some harsh confrontations occurred between the police and the demonstrators. These clashes occurred in the center of the city, where most of the demonstrators were staying.

The first clash occurred at a high school used by activists as a boarding house. This school was under siege by the police for about six hours, because it was suspected that weapons and other items intended for rioting were stored there. Finally, the police stormed the school and arrested all of the people inside of the building.

The second clash occurred the next day, when one protest march got out of control and riots and vandalism occurred along one of the main streets in Gothenburg. The activists, many of whom were masked, used paving stones, slingshots, and other weapons to inflict injuries to police officers, police dogs, and police horses. Later, the same evening, a "street party" turned into a riot, where police officers used their guns to attempt to control the crowd, and wounded three protesters.

Occasionally during the clashes, it became difficult to control the situation. There were two main reasons the police faced this difficulty: (1) the demonstrators moved faster than the heavily equipped police forces; and (2) some technically skilled activists managed to break into the police radio network, causing confusion by jamming the frequencies or broadcasting (false) pre-recorded orders on the command channel. However, there was never a complete loss of communication within the police forces.

The police took 600 persons into custody during the Summit. Sixty of these were arrested.

#### *Organization of Medical Care*

Due to the intelligence gathered by the police prior to the Summit, the healthcare organization in Gothenburg had the opportunity to plan well in advance of the event. There are four hospitals in the region, two in the city of Gothenburg, one in a suburb north of the city, and one south of Gothenburg. These hospitals were prepared to receive more patients than usual and had postponed elective surgeries. The capacity to provide primary care also was reinforced and specialists in areas such as cardiology and surgery were prepared to treat patients in the hotels.

A Command Center for the management of the medical emergency services was established near the fire brigade's Command Center. Two specially trained medical incident officers in command vehicles were positioned

close to potential areas of risk. The ambulance service was reinforced with extra vehicles and staff. The Command Center prepared guidelines regarding decontamination and treatment after exposure to tear-gas and butyric acid. In order to avoid conflicts, hospitals were assigned either injured police officers or demonstrators. The Summit had its own medical service organization confined to its premises.

#### *Objective*

The aim of this investigation was to analyze the number and character of injuries in a large and sometimes violent mass gathering and to evaluate the medical care services provided and their achievements.

#### **Methods**

During the EU Summit, the Command Center for the medical care services compiled a daily inventory of medical records of patients who had visited a physician at the medical centers in connection with the EU Summit. Police officers with minor problems were treated mainly at a center next to the Police Headquarters and they were included in the total number of patients.

#### **Results**

The EU Summit attracted approximately 4,000 participants. In addition 50,000 activists and demonstrators visited Gothenburg. About 2,500 police officers were on duty in the city. During the meetings, some clashes occurred between activists and police officers, mostly causing minor injuries, but a few serious injuries and extensive damage to property occurred. During the Summit, 143 people sought medical attention.

In total, 143 patients were registered. This includes all of the patients outside of the Summit who consulted a physician. Of those, 53 (37.1%) were police officers, and 90 (63.0%) were civilians. Eighty-six (60.2%) patients visited were treated at primarily four hospitals, whereas general practitioners treated 57 (39.9%) patients. The average length of stay at the hospital was six days and the median time was three days. The following definitions of categories are used: Category I: Immediate, Category II: Urgent, and Category III: Delayed.

Most patients had minor injuries and were treated as outpatients. However, some patients were seriously injured, and one patient sustained life-threatening injuries. (Patient 2, Table 1) In total, nine patients, three of which were police officers, had to stay at the hospitals after primary examinations (Table 1). These nine patients belonged to Category I, the others to Categories II or III. One journalist died of a heart attack in the Congress building.

The most common injuries were different kinds of injuries to the hand (22 patients; 15.4%), dog-bites (18 patients; 12.6%), foot injuries (15 patients; 10.5%), and head injuries (14 patients; 9.8%). Dog bites occurred to five police officers.

The most serious injuries were gunshot wounds (three patients), fracture of the base of the skull (one patient), and cerebral concussion (one patient). The gunshot wounds were localized to the lower leg (two patients) and the abdomen (one patient). Four police officers were diagnosed as "exhausted".

Pt #	Injury/Symptom
1	Wound injury
2	Gunshot, multiple trauma
3	Concussion of the brain
4	Skull fracture, open
5	Gunshot, fracture of os fibula
6	Gunshot, right calf
7	Multiple trauma, head
8	Syncope (exhaustion)
9	Exhaustion

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**Table 1**—Patients with injuries and symptoms, Category 1 (pt = patients)  
(Patients 8 and 9 were policemen)

In addition, 100 people inside the Congress area (where the EU Summit was convened) were examined and/or treated for minor complaints.

*Patient Presentation Rate (PPR)* is defined as the number of people who seek medical attention per 1,000 participants in a mass gathering. During the EU Summit, the PPR was 2.7. The dimension of the medical services and resources were considered to be sufficient for the EU Summit and the activities that occurred around the meeting.

### Discussion

Although violent confrontations were reported at previous meetings (Nice and Malmö), few data exist regarding the number and types of injuries and the medical care provided. One publication reports on the anti-war demonstrations in Washington, DC in November 1969.<sup>1</sup> During three days, it was estimated that 250,000 to 800,000 people assembled, and confrontations between demonstrators and the police occurred. It was reported that 289 people needed medical care due to injuries and medical emergencies. During these demonstrations, approximately 5,000 people were exposed to tear gas and other gases.

Many factors influence the PPR at mass-gatherings, and that proper estimation of PPR is complex. Michael and Barbera found that the character and size of the crowd, nation, and weather significantly influence PPR.<sup>2</sup> Arbon *et al* have reported from >200 mass gatherings in Australia.<sup>3</sup> They found that mass-gatherings that are geographically limited and limited in time, have significantly higher PPR compared to mass-gatherings that are unlimited in time and geography. A system for classifying mass-gatherings has been proposed that considers if the crowd is seated or moving and whether or not people are participating in the arrangement has been proposed.<sup>4</sup>

The demonstrations in connection with the EU Summit in Gothenburg lasted for three days, took place in

a relatively limited area, and the majority of visitors moved around in the central city. Therefore, one might have expected a higher PPR in Gothenburg.

Arbon *et al* also found that PPR decreases slightly with the size of the crowd, and that accessibility to health care and alcohol correlates with the PPR.<sup>3</sup> In Gothenburg, there were no organized first-aid stations at the scene except from some Red Cross volunteers. Alcoholic beverages were easily available, as the demonstrations took place in the centre of the city where many pubs and restaurants are located.

Weather is an important factor for PPR.<sup>2,3,5,6</sup> In Gothenburg, it was partly cloudy and approximately 15°C (59°F), which decreased the risk of dehydration, fainting, or other heat-related symptoms.

Prior to the EU Summit in Gothenburg, there were no medical data from previous meetings of this type in Sweden. The PPR in the present analysis was estimated to 2.7. In other reports the PPRs have been reported to be 0.9 to 8.3 for different types of mass-gatherings (golf tournaments, motor races, and rock concerts).<sup>2,3,7-9</sup> However, it should be noted that these PPRs are calculated from total presentation to the medical care services. A majority of these patients had not seen a doctor for their complaints, but had been treated at a first-aid station. Therefore, the PPR of 2.7 in Gothenburg must be considered high, as it only includes the patients who assessed by a doctor.

The character of the injuries and medical emergencies in Gothenburg also differ from those reported earlier.<sup>3,8-10</sup> A lower percentage of the patients complained of headache and other CNS-related diseases. Instead, a higher percentage needed medical care due to traumatic injuries than has been reported previously. This depends on the character of the event, including violence, but might also reflect the fact that only visits to a physician were registered and that the weather did not cause dehydration.

Some authors have presented suggestions on how to plan and organize medical care at mass gatherings.<sup>7,9-13</sup> Since the violent clashes during the EU Summit in Gothenburg were expected, the medical emergency service was well-prepared. The hospitals and the ambulance service were reinforced. A Command Center for major incidents was manned during the Summit. Still, the mobility of the activists combined with the jamming of the police radio net made it almost impossible to make an overall assessment of the moving scene at times. The *ad hoc* solution was to place a paramedic in a police car, reporting to the healthcare Command Center over the ambulance radio net. Despite 143 injured persons, the medical care services never became overloaded, mostly due to the fact that most injuries were minor and the medical service was well-prepared.

### Conclusions

In connection with the EU Summit from the 15–16 June 2001, 50,000 activists and demonstrators visited Gothenburg, Sweden. Most demonstrations were peaceful, but on a few occasions, these escalated into riots. In total, 143 persons sought medical attention from a physician. Nine patients were admitted to hospitals, one of them with life-threatening injuries from a gunshot wound in the abdomen. The PPR was 2.7. Medical care services were reinforced prior to the Summit, and were never overloaded.

## References

1. Chused TM, Cohn CK, Schneider E, Winfield JB: Medical care during the November 1969 antiwar demonstrations in Washington, DC: An experience in crowd medicine. *Arch Intern Med* 1971;127:67–69.
2. Michael JA, Barbera JA: Mass-gathering medical care: A twenty-five year review. *Prehosp Disast Med* 1997;12:305–312.
3. Arbon P, Bridgewater FHG, Smith C: Mass-gathering medicine: A predictive model for patient presentation and transport rates. *Prehosp Disast Med* 2001;16:150–158.
4. Nordberg M: EMS and mass-gatherings. *Emerg Med Serv* 1990;19:46–57.
5. Bowdish GE, Cordell WH, Bock HC, Vukov LF: Using regression analysis to predict emergency patient volume at the Indianapolis 500 mile race. *Ann Emerg Med* 1992;121:1200–1203.
6. DeLorenzo RA: Mass-gathering medicine: A review. *Prehosp Disast Med* 1997;12:68–72.
7. Sanders AB, Criss E, Steckl P, Meislin HW, Raife J, Allen DL: An analysis of medical care at mass-gatherings. *Ann Emerg Med* 1986;15:515–519.
8. Flabouris A, Bridgewater FHG: An analysis of demand for first-aid care at a major public event. *Prehosp Disast Med* 1996;11:48–54.
9. Janchar T, Samaddar C, Milzmann D: The mosh pit experience: Emergency medical care for concert injuries. *Am J Emerg Med* 2000;28:62–63.
10. Shelton S, Haire S: Medical care for mass-gatherings at collegiate football games. *South Med J* 1997;90:1081–1083.
11. Leonard RB: Medical support for mass-gatherings. *Emerg Med Clin North Am* 1996;14:383–397.
12. Hodgetts TJ, Cooke MW: The largest mass-gathering. *BMJ* 1999;318:957–958.
13. Parrillo SJ: Medical care at mass-gatherings: Considerations for physician involvement. *Prehosp Disast Med* 1995;10:273–275.