EUROPEAN JOURNAL OF PUBLIC HEALTH 1996; 6: 257–261

Medical evacuations from the region of former Yugoslavia

The experience of 2 years

JACQUELINE WEEKERS, PAOLA BOLLINI, HARALD SIEM, BARBARA DEAN *

In September 1992, the International Organization for Migration (IOM), an intergovernmental humanitarian organization based in Geneva, Switzerland, implemented the special medical programme (SMP) for the medical evacuation of war victims in former Yugoslavia. For inclusion into the SMP, patients must be victims of war, suffer from a serious medical condition with a favourable prognosis, not treatable locally, be stable enough to survive air travel and withstand delay between medical documentation and actual evacuation. As of August 1994, 1,484 patients in need of secondary treatment not locally available were evacuated to hospitals in 31 countries. Most patients suffered from fractures, amputations and nerve injuries. Seventy-two per cent originated from Bosnia-Herzegovina. This paper discusses various problems encountered, such as bureaucratic obstacles, ongoing armed conflict hampering humanitarian activities, lack of funding and the effects of the sustained media attention.

Key words: Yugoslavia, relief work, delivery of health care, public health, international cooperation

The conflict in the former Yugoslav Republics has, according to one source, resulted in over 200,000 casualties and over 450,000 wounded.[1] A household survey[2] in Sarajevo showed that over the period April 1992 – December 1993, 71% of all deaths were men and 68% died from violent causes. Males aged 15–64 years were the most likely victims.

The civil strife and, in some regions, the international community's embargo, heavily taxed the capacity of the formerly well-developed local health structure. Hospitals were rapidly overwhelmed, able only to respond to emergencies, while complex procedures involving orthopaedic and reconstructive surgery could not be performed due to shortages of equipment, supplies and personnel.[3] In many cases, the potential for the victim's functional recovery decreased over time.

As a priority, international assistance has supported the local health system in former Yugoslavia by strengthening primary health care and providing necessary supplies to hospitals and health centres.[4,5] In addition to these efforts, the International Organization for Migration (IOM), has implemented the Special Medical Programme (SMP)[6] to evacuate severe medical cases to countries where specialized treatment was provided at the governments' expense or by private donors. In this, the SMP was building upon the experience gained from setting up international hospital placement and arranging transport for Afghan and Kurdish victims of war. IOM is an intergovernmental organization based in Geneva, Switzerland, with 55 member governments and 82 offices throughout the world. Among its chief functions, it organizes internationally the orderly migration of persons in need of resettlement. It acts in partnership with the United Nations system, other intergovernmental bodies and non-governmental organizations (NGOs). This paper presents the results of the first 2 years of the SMP and reviews the patient case load, the programme's accomplishments and its complexities.

* J. Weekers[1], P. Bollini[1], H. Siem[1], B. Dean[1]
1 International Organization for Migration, Medical Services, Geneva, Switzerland
Correspondence: Jacqueline Weekers, International Organization for Migration, Medical Services, 17 Route des Morillons, P.O. Box 71, 1211 Geneva 19, Switzerland, tel. +41 22 7179111, fax +41 22 7986150

PROGRAMME DESCRIPTION

Implemented in Croatia in September 1992, the IOM's Special Medical Programme expanded to Bosnia-Herzegovina in July 1993 and to the Federal Republic of Yugoslavia in September 1993. The IOM set up offices in Zagreb, Belgrade and Sarajevo, working closely with local medical structures, NGOs and other international organizations present in former Yugoslavia.

Patients were referred to the programme by local hospitals or their personal physician and were selected by an international IOM doctor upon a medical examination according to the programme criteria. For inclusion into the SMP, patients must be victims of war, suffer from a serious medical condition with a favourable prognosis, not treatable locally, be stable enough to survive air travel and withstand delay between medical documentation and actual evacuation.[7] The patients' documentation consisted of a medical form providing a brief summary of the condition, the proposed intervention and the level of urgency, as well as transport requirements. For each patient, the main medical condition requiring treatment abroad was coded according to WHO's Tenth inter-

national statistical classification of diseases and related health problems (ICD–10).[8]

In Bosnia-Herzegovina, where the health system was most affected by the hostilities, the programme was organized differently and also accepted patients suffering from non-war-related diseases, not treatable locally. In addition, although the programme was meant to target stabilized patients, emergency cases were evacuated from Bosnia-Herzegovina within 24–48 h at the request of United Nations agencies. All medical documents were prepared by local staff of the UN High Commissioner for Refugees (UNHCR) and reviewed by the UN Medevac committee in Sarajevo to identify patients who qualified under the programme's criteria. Cases were then forwarded to the IOM for placement abroad. The IOM collaborated with NGOs, government authorities and IOM field offices in participating countries in order to relay the medical documentation to hospitals which had volunteered to accept patients. Upon acceptance, the IOM arranged visas and travel documents. The principal criteria in choosing a specific country were the type of treatment available, travel distance and the length of administrative procedures required for patient acceptance, which differed greatly by country. As a rule, patients were transported on commercial flights to the country of treatment. Those travelling from Bosnia-Herzegovina were transported on medically equipped military aircrafts to transfer points (Split in Croatia and Ancona in Italy), where onward travel was organized. If necessary, medical personnel escorted patients. Family members accompanied the patients if their presence was medically indicated and minors were always evacuated with a parent and possibly young siblings to minimize psychological distress.

Upon completion of treatment, the IOM repatriated patients to their country of origin, using the transfer points for connecting military flights back to Bosnia-Herzegovina.

The cost of treatment and housing in host countries were borne by receiving hospitals, governments and NGOs, while donations by governments covered transportation and IOM staff and office costs. In addition, several governments made transportation contributions in kind, offering the use of aircrafts.

RESULTS

A total of 1,707 patients from former Yugoslavia were screened into the SMP between 1 September 1992 and 31 August 1994.

The characteristics of the patients are shown in *table 1*. The majority were young adult males and almost 90% were Bosnian citizens. Approximately three-quarters of the patients came from Bosnia-Herzegovina, mainly from Sarajevo (778), Tuzla (148), Zenica (153), Mostar (71) and Gorazde (48), indicating that many Bosnian patients received primary treatment in Croatia and the Federal Republic of Yugoslavia. Sixty-five per cent of patients were war injured and in need of orthopaedic and reconstructive surgery *(table 2)*. Among war injuries, fractures were the most frequent category (663 or 60% of war injuries). In most cases, fractures were complicated by osteomyelitis or needed bone grafts or plastic surgery. Non-war-related diseases, one-third of the case load, were predominantly malignant neoplasms and congenital malformations. Women represented 44% of non-war-injured patients, and 13% of war-injured. Non-war-related diseases accounted for 45% of the case load from Bosnia-Herzegovina and only 11 and 3% from Croatia and the Federal Republic of Yugoslavia respectively.

Not all selected cases resulted in treatment abroad. Soon after screening, 133 case files were closed; 31 patients withdrew from the programme for personal reasons or found treatment abroad through other organizations, 17 recovered or treatment became available locally, 7 upon revision did not meet the programme's criteria, 11 deteri-

Table 1 Main characteristics of the patients screened into the special medical programme (SMP)

	N	%
Sex		
Males	1302	76
Females	405	24
Age [a] (years)		
≤16	361	21
17–35	684	40
36–55	574	34
>55	85	5
Citizenship [b]		
Bosnia-Herzegovinan	1518	89
Croatian	165	10
Serbian	23	1
Country of origin		
Bosnia-Herzegovina	1235	72
Croatia	345	20
Federal Republic of Yugoslavia	127	8

a: Unknown for 3 patients
b: One patient had Albanian citizenship

Table 2 Diagnostic profile of the patients screened into the special medical programme (SMP)

	N	%
Non-war-injured (598 patients)		
Malignant neoplasms (C00–C97) [a]	218	36
Congenital malformations (Q00–Q99)	107	18
Miscellaneous	273	46
War-injured (1,109 patients)		
Head and neck (S00–S19)	197	18
Thorax, abdomen, spine and pelvis (S20–S39)	115	11
Shoulder, arm and hand (S40–S69)	158	14
Hip and thigh (S70–S79)	176	16
Knee, lower leg, ankle and foot (S80–S99)	188	17
Multiple body regions (T00–T07)	225	20
Burns and corrosions (T20–T32)	25	2
Miscellaneous	25	2

a: Codes used are ICD–10 codes

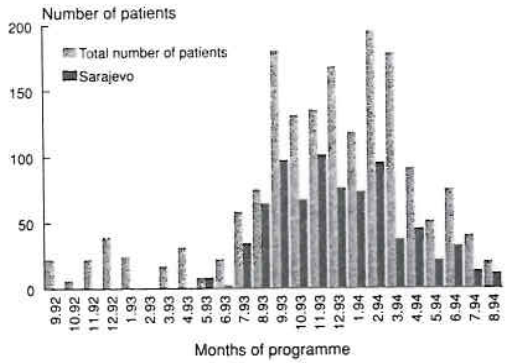

Figure 1 Recruitment of patients into the special medical programme (SMP)

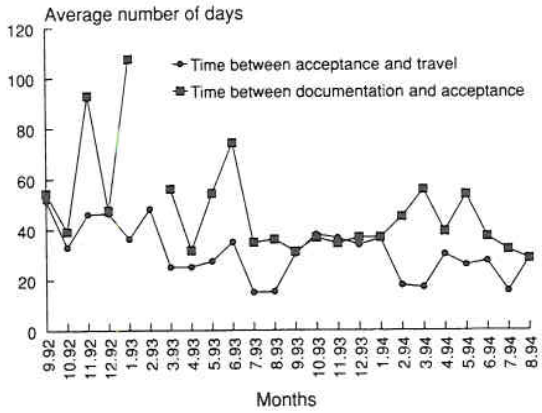

Figure 2 Average time between documentation and travel

orated and died, 22 were refused by all hospitals that were approached for admission and 45 were closed for unspecified reasons.

By the end of August 1994, 1,484 patients had been evacuated accompanied by 1,253 family members, while 90 were still pending acceptance. Patients were accepted and treated in 31 countries. The largest number of cases were treated in the United States, followed by Italy, Denmark, Finland and the United Kingdom (*table 3*). Out of those evacuated, 273 (19%) had returned to Croatia and the Federal Republic of Yugoslavia upon completion of treatment and 15 died abroad.

Table 3 Countries which have accepted patients for treatment (September 1992 – August 1994)

Country	Number
Australia	2
Austria	21
Belgium	64
Canada	10
Croatia	3
Czech Republic	19
Denmark	180
Finland	134
France	10
Germany	51
Greece	19
Hungary	11
Iceland	2
Ireland	36
Italy	191
Jordan	1
Kuwait	13
Luxembourg	8
Malta	5
The Netherlands	32
Norway	23
Poland	11
Saudi Arabia	28
Slovenia	1
Spain	17
Sweden	25
Switzerland	66
Turkey	21
United Arab Emirates	51
United Kingdom	73
USA	356

The screening of patients into the programme was quite slow during the first 10 months (*figure 1*), when the programme operated only in Croatia and a few 100 hospital beds were made available internationally. Increased media attention during August 1993 changed the placement situation significantly. The programme involved approximately 700 new cases between August and December 1993, as compared to 250 in the previous 11 months. The majority of new patients were from Sarajevo. By April 1994, the recruitment of patients slowed down for lack of funding to only 20 cases in August 1994.

The time interval between documentation and acceptance was unpredictable during the first 12 months of the programme, ranging from several weeks to several months (*figure 2*). From July 1993, this interval decreased considerably, stabilizing at approximately 1 month on average until January 1994. After that, the variability increased again, but less so than during the first months of the programme.

The average number of days between acceptance and actual evacuation gradually decreased during the first 12 months of the programme. From September 1993, the time interval showed an increase, up to 5 weeks, for a few months due to the growing case load, the increasing number of participating countries and the unpredictability of travel arrangements out of Sarajevo. The latter remained the principal reason for delayed evacuations. Fifty patients were evacuated by emergency procedures within 1–2 days. All emergency cases originated from Bosnia-Herzegovina of which the highest percentage suffered from burn-related injuries and 2 died abroad.

Finally, the average expense per evacuated patient was approximately USD 1,900, including staff and office costs, and travel of patient and accompanying family members. Medical treatment was donated in kind and could therefore not be quantified.

DISCUSSION

Since the beginning of the conflict in former Yugoslavia in 1991, the number of people directly and indirectly affected by the war has risen dramatically. Local health structures suffered greatly from the armed conflict and could not respond adequately to the needs of the injured nor of those who suffered from otherwise treatable health problems. One of the relief efforts, in addition to bringing in supplies and personnel where needed, was to evacuate patients to other countries for medical care. This response represented an extremely complex solution that called for careful patient selection, logistical planning and vigilant international coordination.

The majority of the 1,707 cases identified for medical treatment abroad were Bosnian and almost three-quarters came directly from Bosnia-Herzegovina where the population and medical infrastructure were more affected by the war as compared to Croatia and the Federal Republic of Yugoslavia. The programme focused mainly on war victims, but one-third of the cases suffered from severe non-war-related diseases, mainly originating from Bosnia-Herzegovina where the selection criteria allowed for their inclusion in the SMP. Patients almost invariably required long treatment and rehabilitation in the country of acceptance.

The expansion of the selection criteria to include emergency cases jeopardized the effectiveness of the SMP and illustrated that the complex organization of the SMP was not necessarily appropriate to serve patients with life-threatening conditions. The emergency cases were quickly evacuated, but they almost invariably delayed the operations for the much larger 'regular' case load because all resources had to be devoted to assist them as expeditiously as possible.

Finally, patients experienced various degrees of mental distress stemming from physical problems, the overall conditions of evacuation and the prospect of an uncertain future and family separation. The SMP did not address the psychological consequences of evacuation, with the exception of children who were always accompanied by family members to prevent or minimize mental distress. The programme occasionally received reports of psychological problems compounding the patient's treatment in host countries. These problems were addressed locally.

Bureaucratic obstacles and ongoing aggression delaying the evacuation process

The results show that, apart from emergency cases, patients waited for placement for several weeks or months. As visibility of the programme increased, the time between documentation and hospital acceptance diminished. By contrast, the interval between acceptance and evacuation increased temporarily, partly because procedural routines were lacking to arrange entry and residence formalities in host countries which had newly joined the programme. Bureaucratic obstacles in receiving countries as well as in former Yugoslavia delayed the process. At the onset of the programme, the Bosnian authorities required 29 signatures per patient from various ministries and local authorities to approve departure of its citizens. Gradually, the Bosnian authorities developed less cumbersome procedures. In addition, the military and political situation in Bosnia-Herzegovina seriously complicated the patients' evacuation. Accusations of favouritism by fighting parties and threats of military repercussions resulted in the frequent cancellation of flights departing from Sarajevo and evacuations from besieged zones. For example, one of the fighting parties prevented a medical evacuation from Gorazde by demanding the exchange of prisoners of war for SMP patients.[9] It was particularly in these circumstances that the programme needed to adhere to principles of impartiality and neutrality, the core elements of humanitarian work[10] and not engage in political controversies.

Ongoing conflict preventing repatriation to Bosnia-Herzegovina

Patients from Bosnia-Herzegovina whose treatment had been completed were difficult to repatriate due to the ongoing armed conflict. In accordance with Article 31 of the Geneva Conventions[11] on the Protection of the Wounded, Sick and Shipwrecked, potential combatants cannot be returned until after the conflict ('The wounded, sick or shipwrecked...shall be detained by that State (i.e. neutral territory), in such a manner that they cannot again take part in the hostilities...'). As a result many young males originating from Bosnia-Herzegovina, who had received treatment and were considered potential combatants, stayed in host countries beyond their treatment and received various forms of temporary asylum. This unexpected extended residence of treated patients and related costs led to placement stops by several governments. For the patients who did return to Bosnia-Herzegovina, the UNHCR assured the possibility of returning in safety and dignity, e.g. to a decent residence, before repatriation.

Effects of mass media

One of the most unanticipated shifts in the course of the SMP was brought about by the mass media. In early August 1993, media attention provoked by the case of a Bosnian wounded girl, named Irma, triggered international awareness of the plight of the many severely wounded. Within a few days, a large number of countries pledged over 2,000 hospital placements and financial contributions arrived steadily. The SMP had to be scaled up to meet this opportunity to help as many victims as possible. As many zones had previously been inaccessible for patient evacuation, a new logistical structure was put in place, in cooperation with the UNHCR and UNPROFOR (UN Protection Forces).

However, media frenzy also had a negative effect on the programme. Because it highlighted Bosnian women and children as the victims of war, international interest focused on these categories. This seriously complicated the timely placements for adult males, the vast majority of the case load, as well as for victims from other regions in former Yugoslavia. As a result, a substantial amount of

time and resources had to be devoted to explaining to hospitals and government authorities that the application of criteria other than medical ones would have weakened the programme's ability to bring relief to all persons in need.

Although the civil strife in former Yugoslavia remained headline news, financial contributions became sparse after March 1994. Because the need for medical assistance abroad continued, the IOM attempted to raise additional funds among governments through emergency appeals in collaboration with other international agencies active in former Yugoslavia. However, incoming funds were minimal, resulting in a sharp drop in patient recruitment and a scaling down of the programme as of April 1994.

CONCLUSION

While humanitarian organizations have moved patients with severe medical conditions from war zones many times in the past, the SMP is unprecedented in terms of the size of its case load, the number of countries involved and the media attention it attracted. As such it provides important lessons for future medical evacuations from war regions for both international organizations and NGOs. In our opinion the following 4 points are essential for future medical evacuations to bring the greatest possible relief to a population in need:

- to carefully coordinate interventions of international agencies and NGOs;
- to adhere to medical selection criteria;
- to focus on stabilized patients and
- to remain impartial towards various parties in an armed conflict.

Despite being hindered by many problems such as media pressure, complicated administrative obstacles, lack of funding and the ongoing conflict in Bosnia-Herzegovina, the SMP carried out its main objectives and assisted more than 1,480 victims of war for whom treatment abroad was a last resort over 2 years.

During the first half of 1995, evacuations took place sporadically, hampered by the ongoing strive and, at times, limited funding. The need for continuing evacuations from former Yugoslavia will obviously depend on whether hostilities are contained. With cautious optimism, the SMP will focus on monitoring, return and follow-up, hoping for an eventual positive outcome of the peace process and gradual restoration of the local health care infrastructure.

We wish to thank all persons and institutions involved in the Special Medical Programme for their dedication and commitment which made this project a reality.

REFERENCES

1 Horton R. On the brink of humanitarian disaster. Lancet 1994;343:1053.

2 Jalovcic D, Davis A. Health, water and heating in Sarajevo: a report of a household survey. Amsterdam, The Netherlands: Medecins sans Frontières, 1993.

3 Mann J, Drucker E, Tarantola D, McCabe MP. Bosnia: war and public health. Cambridge (MA): Harvard/ Einstein Study Group, 1994.

4 World Health Organization. Humanitarian aid for former Yugoslavia. Zagreb, Croatia: World Health Organization Regional Office for Europe, 1993.

5 International Committee of the Red Cross. ICRC activities in the region of former Yugoslavia. Geneva, Switzerland: International Committee of the Red Cross, 1994.

6 Weekers J, Bollini P, Siem H. Medical evacuations from the former Yugoslavia. JAMA 1994;272:351.

7 International Organization for Migration. An introduction to IOM special medical programmes. Geneva, Switzerland: International Organization for Migration, 1994.

8 World Health Organization. International statistical classification of diseases and related health problems, tenth revision. Geneva, Switzerland: World Health Organization, 1992.

9 World Health Organization. Report no. 28. Office of WHO special representative, Zagreb. Zagreb, Croatia: World Health Organization Regional Office for Europe, 1994.

10 League of Red Cross and Red Crescent Societies. Working with refugees and asylum seekers: a handbook. Geneva, Switzerland: League of Red Cross and Red Crescent Societies, 1991.

11 International Committee of the Red Cross. The Geneva conventions of August 12, 1949. Geneva, Switzerland: International Committee of the Red Cross, 1949.

Received 25 April 1995, accepted 29 August 1995