# EMVCs: ambulance work and hospital social workers in Australia and Sweden

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**ABSTRACT:**

**This paper reviews available research concerning emergency medical vehicle collisions (EMVCs) involving ambulances, especially as these concern ambulance staff and the professional role of hospital social workers in Australia and Sweden. Better understanding EMVCs and health-related outcomes requires further research into the possibility of psychosocial support and the professional role of hospital social workers.**

**KEYWORDS: emergency medical vehicle collisions, ambulance personnel, hospital social worker**

## Introduction

Road traffic injuries as a public health problem have been studied from the point of view of permanent medical impairment (1) and the cost of long-term consequences (2-8). In recent years, studies have also shown that the incidence of compensation claims in the insurance industry is higher for women than for men (9). Previous studies have found evidence of short- and long-term mental and social consequences following traffic injuries (10). Acute stress syndrome relating to injuries characterised by mood disturbance, horrific memories, sleep disorders, anxiety and depression, post-traumatic stress disorder (PTSD), and phobic travel anxiety. An important injury group is patients with whiplash-associated disorders (WAD). An Irish study has shown, for example, that 26 percent of injured persons with WAD still suffered from pain one year after the injury event (11). Several studies have suggested that at least every tenth injury case involves chronic neck pain leading to periods of sick leave (121-15). Other studies have shown that injured persons experience psychological suffering (16-22). An earlier study carried out by the Accident Analysis Group at the University Hospital of Northern Sweden, Umeå, Sweden, found that 140 of 255 car occupants (55%) injured in urban traffic in the 1990–1991 period, were of an age that entitled them to sickness benefits; it was furthermore shown that slightly more than one tenth of these people was still on sick leave or was receiving a disability pension 4–6 years after the injury event (23).

In Australia and Sweden, ambulance and pre-hospital emergency care personnel are responsible for helping people seriously injured in traffic accidents. In their work, ambulance personnel have a great risk of becoming involved in traumatic experiences and experiencing negative stress. They also risk getting involved in accidents when driving to the accident scene or to the hospital: this phenomenon is referred to in this paper as emergency medical vehicle collisions (EMVCs).

## Purpose of the study

The first aim of this study was to review the literature concerning EMVCs in ambulance work, paying particular attention to the professional role of the hospital social worker in Australia and Sweden.

The second aim was to compare the psychosocial support role of hospital social worker in Sweden with that of the Australian counterpart. This study also discusses the need to offer psychological support such as debriefing and crisis intervention to emergency medical personnel involved in EMVCs. Finally, I consider whether hospital social workers should be involved in multidisciplinary collaboration concerning EMVCs. This study finds that professional social workers offer service that is highly relevant to EMVC injury events.

## Pre-hospital research and social work research

An electronic literature review was conducted. Relevant international scientific references were identified in the following scientific databases: International Transport Research Documentation (ITRD), Transportation Research Information Services (TRIS), MEDLINE, Psychological Abstracts (PsycINFO®), and Social Work Abstracts 1977–2002. The following search terms (keywords) were used: ambulance work, ambulance crash, emergency medical vehicle, emergency medical vehicle collisions, ambulance personnel, ambulance officer, hospital social work, hospital social worker, crisis intervention, and social support.

While much EMVC research has investigated relevant mental health assessment practices in psychiatry, health sciences, and medical sciences, research into relevant practices in social work, especially hospital social work, is limited. Few studies were found from the social work discipline, with no studies relating to the specific research problem of this study (24-31). Studies of EMVCs in cases of mental illness or psychiatric emergency referrals are rare in Australia and Sweden, and searching national and international research literature found very few articles examining social work in hospitals, especially the role of the hospital social worker in practice. All the articles found relating to EMVCs concerned patient trauma, patient transport and safety, and definitive medical care. No articles were found that examined hospital social worker practices pertaining to EMVCs, social support at hospital emergency units, or the need for education of hospital social workers.

Ambulance and pre-hospital research in Australia and Sweden has developed within a multidisciplinary perspective focussing on pre-hospital ambulance work and the working conditions of ambulance staff. The Australian researchers Tippett et al. wrote: ‘By comparison to other health disciplines and medical specialties, pre-hospital and emergency medical systems (EMS) research lags behind its clinical cousins’ (32). It is also important to study ambulance work from a social work perspective. To date, attempts to initiate pre-hospital and EMS research, from a social work perspective, in Australia and Sweden have been limited. This paper focused on EMVCs and the consequences of the injury event. There has been very limited research into the social consequences of EMVCs or into the psychosocial support offered its victims; moreover, follow-up studies of the EMVC phenomenon are lacking. From a multidisciplinary perspective, there has also been ‘very limited research on the biomechanics of occupant safety in the ambulance environment’ (33). An American study by Levick et al. (2001) shows that emergency medical service vehicles in the United States have high crash and fatality rates per mile travelled; moreover, ‘the injury rates are estimated to be 60 fold higher than the fatality rates’ (33). The same study also demonstrates that ‘standards for ambulance vehicle occupant safety need to be developed’ (33). In the present study I argue that psychosocial and psychological support from hospital social workers is a resource generally ignored in previous research. An Australian study outlines and discusses crisis intervention and trauma management, and in particular, how medical social workers in Australian hospitals assist injured individuals following road traffic trauma (34). A Swedish study conducted by Andersson shows that women run the risk of experiencing residual mental states following a trauma to a greater extent than males do (35) – a conclusion already reached in earlier international studies (36-38). An Australian study (39) focused on injury consequences and accident experiences among ambulance personnel as crewmembers of ambulances or members of medical emergency teams. A 2002 Swedish study identified the risk of PTSD symptoms in ambulance personnel: ‘The mental health and emotional well being of ambulance personnel appears to be at risk in accident and emergency work. The high prevalence of PTSD

| Stressors | Predictors |
|---|---|
| Social aspects of the work environment | post-traumatic response burnout symptoms fatigue |
| Lack of social support from colleagues | post-traumatic response burnout symptoms fatigue |
| Lack of social support from supervisor | post-traumatic response burnout symptoms fatigue |
| Poor communication | post-traumatic response burnout symptoms fatigue |

*Figure 1. Stressors and significant predictors of health symptoms in ambulance work: experiences from Australian and Swedish injury research (Jonsson 2004; Kleber and Ploeg 2003)*

symptoms in ambulance personnel indicates a normal inability to cope with posttraumatic stress caused by their daily work' (40). Also, an Australian study by Kleber and Ploeg (41) found that high levels of chronic stressors were common among ambulance workers (Figure 1).

Several international studies have demonstrated that violence and aggression among ambulance staff, sickness absence, and lost productivity in ambulance work are all linked to work-related stressors. A Swedish study (42) highlights the vulnerability of ambulance staff: 'The assessment thus starts before the caregivers have reached the patient and the actual situation. Even if they "know" what awaits them, they do not really "know". It becomes a dynamic struggle between on the one side the expectancy that feels certain and on the other the unknown in every new situation. The struggle contains a desire for control and effectiveness in a care practice full of surprises'

'Surprises' in ambulance work include acute stressors. Examples cited in previous research include: caring for psychiatric patients, being involved with dying and seriously injured people, and dealing with young victims (children) (43). An Australian psychological study found that 'ambulance officers not only come to the aid of trauma victims, but may also be directly victimised; for example, by assault or threat to their lives by persons who have a mental illness, or by persons who are under the influence of drugs' (44). But there is another threat in ambulance work which has not received much attention in previous studies. EMVCs are a common threat to ambulance personnel, patients, and vulnerable groups in the traffic environment, such as pedestrians. In this study I will focus on the acute stressor, EMVCs.

The literature review has shown that the relevant Australian research is more multidisciplinary than the comparable Swedish research and also includes social work aspects. However, in both countries there is still a lack of social work research into the phenomenon of emergency medical vehicle collisions and the psychosocial support for ambulance personnel.

## Overview of EMVCs in Australia and Sweden

'Approximately 125 000 people die every year on the roads of OECD countries. In other words, one road crash victim dies every four minutes' (45). Traffic accidents as a public health problem is a very interesting matter to study from a social work perspective. Why? Because is it a global social phenomenon with many long-term consequences for those involved. Sweden has a total population of 8.86 million people. In 1997, the Swedish Parliament approved a goal long-term road safety based on the 'Vision Zero' program, i.e., that there should be no fatalities or serious traffic injuries at all. In the year 2003, 529 individuals died in Sweden as a direct result of or within 30 days of road traffic accidents. Approximately 22 439 individuals in Sweden were injured, of whom 4 664 were severely injured (46).

In Australia 1,907 deaths were registered in 2002 as the result of transportation-related injury events (47). Figure 2 illustrates the development of deaths in road traffic accidents in Australia and Sweden from 1975 to 2003.

The National Occupational Health and Safety Commission in Australia investigated work-related fatalities involving emergency service workers during the 1989–1992 period, finding that a total of 37 paid or volunteer emergency response workers died in work-related fatalities (48).

Statistics regarding EMVCs in the Nordic countries are very limited (49). In the USA there is estimated to be at least 8 500 ambulance and fire vehicle crashes per year, with an average of one fatality each week. The crash fatality rate per capita is 35

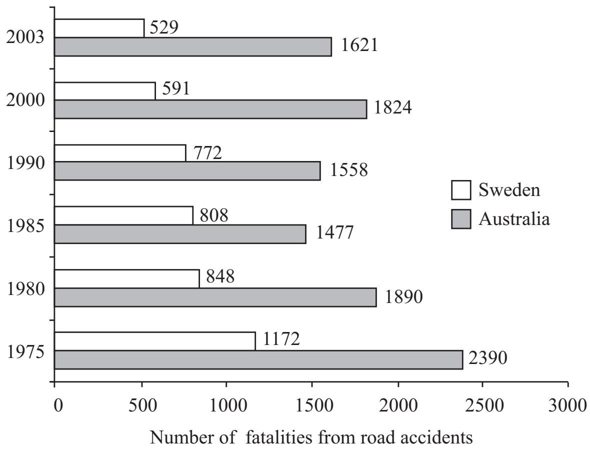


*Figure 2. Number of fatalities from road accidents in Australia and Sweden during 1975 - 2003.*

| Support/resources | Australia | Sweden |
|---|---|---|
| Hospital social workers | Yes | Yes |
| Volunteer ambulance officers (VAO) | Yes | No |
| Debriefing | Yes | Yes |
| Demobilisation | Yes | Yes |
| Defusing | Yes | Yes |
| Peer support program | Yes | Yes |

*Figure 3. Psychological and psychosocial support for ambulance personnel and family members in Australia and Sweden*


*Figure 4. EMVCs in Sweden. Photographer: Gert Molin.*

times higher in the USA than in Australia (50). The matter of emergency road vehicle and helicopter ambulance safety has received much attention in the context of injury reporting by Swedish news media (51). Mass media in Sweden reported a total of 47 serious EMVCs during the period from January 8, 2002 to February 28, 2005 (52). However, there is still a lack of accident data and EMVC statistics in Sweden on the part of government, hospitals, and ambulance authorities. For this reason EMVCs comprise a largely unknown research area.

However, studies in Australia and Sweden have shown that ambulance personnel were subject to negative stress and PTSD symptoms during the course of their ambulance work (53-59). The health care and psychosocial support of ambulance personnel who have experienced EMVCs has been described as involving multidisciplinary collaboration between many professional actors, such as healthcare professionals, safety engineering experts, regulatory bodies, and manufacturers (60). In the research literature concerning this multidisciplinary collaboration regarding EMVCs, the professional role of the hospital social worker has been forgotten.

## Psychological and psychosocial support

Since 1986, the Victorian Ambulance Crisis Counselling Unit (VACCU) has had considerable experience counselling and giving social support to ambulance services personnel and their immediate families (http://home.vicnet.net.au/~vaccu/). An Australian study of stress among ambulance personnel in the Victorian Ambulance Service found that 65% of them reported various trauma reactions to their ambulance work (61).

The following quotation from a resource guide by the Victorian Government Department of Human Services indicates how the concept 'critical incident stress management' is understood in Australia:

- Considering initial notification and activation.
- Managing the incident and of the staff.
- Providing defusing as soon as possible.
- Establishing a support system.
- Arranging debriefing as required.
- Providing all relevant information to staff concerning the incident. (62)

The Victorian Government Department of Human Services defined the concept of 'social support' as 'a sense of identification with others that allows the individual to feel that the critical incident experience is not carried alone. Support involves a sense of belonging, understanding, empathy and acceptance' (63).

In Australia, 'Volunteer Ambulance Officers' (VAOs) provide an important part of pre-hospital emergency care (64-65). Such a volunteer emergency response system is unique to Australia; Sweden has no experience of such a system (see Figure 3).

The hospital social worker in Sweden is defined as follows in a psychosocial study by Andersson (2003): 'A Swedish hospital social worker within the somatic medical services is the "psychosocial expert" of the hospital and works with psychosocial and social contributions in the form of crisis intervention, counselling support, information, advice, and the arranging of resources to [sic] patients and their family members in connection with sickness, injury and death. The social worker is also engaged in "indirect" patient work, in other words has a consultative and supportive function for medical staff in their work with patients' (66).

In Australia, the Better Health Channel uses the following definition of hospital social worker:
*The hospital social worker can help with the many issues and priorities that may need to be sorted out. For example, many trauma patients and their families wonder whether children should visit injured relatives, especially when in the intensive care unit. This is a difficult question, because what is right for one person or family may not be right for another. It may help to talk about these issues to family members, friends and hospital staff. Patients should be sure to let the staff know if they would like to see the social worker. (67)*

*The Australian Association of Social Workers (AASW) has some 6 000 members, while in Australia there are some 15 000 social workers in all. To collect statistics on the numbers of hospital social workers employed in accident and emergency departments in Australia would entail contacting each hospital in each state and territory. While there is an association called the Swedish Association of Medical Social Workers, still there is a lack of statistics concerning employed hospital social workers in Sweden. The Swedish Association of Medical Social Workers estimates the number of hospital social workers employed in accident and emergency departments at approximately 10 individuals for the entire country. However, some hospital social workers in Sweden are employed in surgical or intensive care units in hospitals.*

## Summary and conclusions

EMVCs, as an injury-causing phenomenon, comprise a complicated research area. On the basis of the present study, professional hospital social workers can play an important role in the psychosocial support of injured ambulance personnel and their families. EMVCs have been described as ironic events; as Levick et al. wrote:

It does remain somewhat ironic that the very vehicle that is there to rescue occupants from an automotive crash, is in itself not a vehicle that meets any substantive crashworthiness or occupant safety standards. (68)

The social and psychosocial consequences and long-term consequences of EMVCs discussed in this study are, however, serious matters. The EMVC phenomenon is real and very tragic. It is a very serious matter, in my opinion, that there has been such limited research into social consequences, psychosocial support and follow-up study of the phenomenon Emergency Medical Vehicle Collisions (EMVC). An ambulance personnel involved in an EMVC could develop reactions such as shame, guilt, and negative stress from the event.

The present paper highlighted insights from the literature and discussed the possibilities of psychosocial support and the professional role of the hospital social worker concerning EMVCs, their health-related outcomes, and effects on ambulance staff suffering from such injury events.

Increased knowledge is needed as to how EMVCs affect ambulance personnel. There is probably a great need for research into how the social network of the injured person is affected and what reactions occur in this network. To counteract psychosocial problems and social sequelae, it is important to strengthen social intervention work when caring for the injured person after the injury event. Thus, it is also important that the family of the injured person be given increased knowledge as to the significance and expected consequences of the injury. Previous social work research has shown that more than one fifth of injured people have experienced a contraction of their social networks and a loss of friends after the injury event (69-70). The importance of friends for an injured and disabled person is something that has often been overlooked in the health and medical services, since they do not belong to the category of 'family' (71). Nor are friends usually given any information about an injured person's injury or about the emotional sequelae that may arise in connection with it.

There are, of course, many other research questions in the area of EMVCs and ambulance work; however, the role of the hospital social worker is bound to be prominent among these questions (72-85). The historical experience of Volunteer Ambulance Officers (VAO) and of the Australian peer support program would be fruitful matters for study from a social work perspective. The latter is a holistic support system that could and should be developed in other countries. EMVCs as a public health problem and the professional role of the hospital social worker in accident and emergency departments should also be addressed in further social work research.

It would also be interesting to study the willingness of hospital social workers to apply for membership in associations, for example, the health care social worker specialising in psychosocial support and intervention in hospital accident and emergency units. The literature review in the present study showed that membership in associations is not generally regarded as a high priority in Australia or Sweden. The limited statistics and knowledge regarding the working conditions and professional role of hospital social workers in accident and emergency units in both countries may reflect many other factors. More data should be collected at various sites using other types of measures, measures such as gender, level of social work education, working conditions, stress, and coping strategies. The Swedish Association of Medical Social Workers is a member of the International Council on Social Welfare (ICSW) and also has close cooperation with the Akademikerförbundet SSR, a union of university graduates whose members have degrees in economics, social science, social work, or personnel management. The union is affiliated with the International Federation of Social Workers (IFSW). To continue this comparative research into the professional role of the hospital social worker in Australia and Sweden, it is necessary to investigate the trends in hospital social work. Emergency medical services (EMS) personnel should be more prepared for ambulance crashes in the future. Crash data concerning nonfatal injuries to trauma nurses are not routinely included in injury databases. The knowledge and experiences of EMS personnel and their families after an EMVC also deserve further study from a social work perspective.


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