

Volunteers in public health and emergency management at outdoor music festivals (Part 2): a European study

Earl, Parker, Edwards and Capra use outdoor music festivals to consider aspects of volunteer capacity

Abstract

Volunteers working at outdoor music festivals (OMFs) throughout the world can be subject to public health risks. To reduce these risks it is important that volunteers have the capacity to undertake their responsibilities safely. For this study, volunteer capacity is discussed at two levels. As a group, adequate volunteer capacity includes having sufficient knowledge, skills and experience to perform designated tasks. Individually, adequate volunteer capacity is having a good awareness of potential problems, an understanding of control measures and knowledge of roles, responsibilities and emergency procedures.

This study provides a detailed account of volunteer capacity at a prominent OMF in Europe (referred to as 'study festival' from here on in). On the whole, the volunteers in the study reported good knowledge in public health and emergency management at the study festival with the majority having good volunteer capacity. This volunteer capacity was gained through:

- tailored training programs offered by the organisers prior to the festival,
- previous experience volunteering; and
- a proportion also having experience from the health industry.

A similar study was undertaken in Australia and was reported in *The Australian Journal of Emergency Management*, November 2003 (Earl, Stoneham, Capra, 2003). When the findings from the two studies were compared, the European participants had better overall volunteer capacity. In relation to skills, a notable difference between the two study festivals was that the European volunteers had been given training tailored to meet the demands of the

work at that festival. The findings from the European study strongly support the introduction of training programs for volunteers working at OMFs.

Introduction

There are many mass gatherings throughout the world that rely almost solely on volunteer labour for the provision of services. A considerable number of these events are outdoor music festivals (OMFs). OMFs differ greatly from most other events as they are usually held in rural settings, rely on temporary infrastructure and services, include camping for patrons and attract very large crowds. At these events, the volunteers contribute to a range of services such as crowd and fire safety, campsite management and entry and exit control. Without question, volunteers are crucial to the successful and safe operation of these festivals. However, there are risks to those who volunteer (see *Emergency Management Australia 2003*). This risk is increased if the volunteers do not have the capacity to undertake their responsibilities.

This article reports on a study involving volunteers at a large European OMF and builds on the findings from a similar study undertaken at an Australian OMF (Earl, Stoneham and Capra, 2003). This study was designed to assess the volunteers' knowledge and skills in public health and emergency management.

Background of the study festival

The study festival selected was a popular event located in a rural setting that was instigated in the early 1970s. Since that time the event has grown and now caters for more than 150 000 patrons. The festival has more than 800 traders and 250 performers on four main stages, 10 large marques and numerous other stages (Mendip District Council 2000; Lakin, Brown & Williams 2001). In recent history this event has faced major public health and safety challenges that have had significant impacts on the future of the event (Mendip District Council 2000). The event organisers responded to

these challenges by introducing numerous management initiatives including training programs for the volunteers at the festival.

The study festival relies on up to 2000 volunteers to undertake roles including crowd management, parking and traffic management, entrances and exits, fire safety, campsite management and operating security lock ups and information centres (Glastonbury Festival Limited 2002). Candidates must meet three simple criteria to be able to volunteer at the study festival. They must be at least 18 years of age, capable of standing for long periods of time and physically able manoeuvre a person on to their side (ACCESS 2003).

Training programs for volunteers at OMFs are not common (Glastonbury Festival Limited 2002). The training programs offered through the study festival were tailored to the expected level of responsibility, complexity and level of supervision for each volunteer position. The training was undertaken by the volunteers prior to deployment at the study festival. It was delivered by qualified trainers and met the requirements of the draft British Standard (BS8406) for the training and development for outdoor event staff. These programs cover topics including customer care, social skills, site rules, emergency procedures, reporting and communication (ACCESS, 2003; Glastonbury Festival Limited 2002; National Outdoor Events Association 2004).

Method

The study

A cross sectional design was used for this study involving survey methods for the collection of self-report data (Morton, Hebel & McCarter 1990, Portney & Watkins 1993). The study was conceptualised as an exploratory study and, as such, no formal hypothesis testing was undertaken (Bouma 1996).

The study measures volunteer capacity using two sets of criteria. Firstly according to the Health and Safety Executive (HSE), the volunteer population should have adequate skills to perform designated tasks with appropriate levels of knowledge, experience and also



One of the market areas at the festival

some professional expertise (HSE 1997 cited in HSE 2003). Secondly according to the findings from a study undertaken by Au et al (1993), the volunteers should also be aware of problems that may arise and have an understanding of the control measures and awareness of roles, responsibilities, contingency and emergency procedures.

The findings from the European study festival were then compared with findings from a similar study in Australia (Earl, Stoneham and Capra, 2003).

The sample

A convenience sampling method was used to recruit participants into the study (Portney & Watkins 1993; Streiner, Norman & Munroe-Blum 1989). Due to security concerns at the festival, access to the volunteers was only permitted via a volunteer co-ordinator. The volunteer co-ordinator distributed the questionnaire on the second day of the three day festival and the collection process was undertaken over the subsequent two days. The volunteer co-ordinator was requested to approach only volunteers who had received training. A total of 50 volunteers agreed to participate in the study.

Survey questionnaire

The questionnaire was developed to collect self-report data on volunteer capacity at OMFs and consisted of a combination of closed and open questions. The questionnaire had been used successfully for an earlier Australian study so no pilot testing was required (Earl, Stoneham & Capra 2003).

The questionnaire comprised four sections. The first section related to demographic information. This included age, gender, experience in volunteering and usual occupation. The second section focused on public health hazards and control measures. The third section focused on emergency management for the festival. The final section focused on volunteer confidence in dealing with emergency situations.

Statistical methods

As this was an exploratory study with little statistical testing employed, only findings that were considered statistically significant or notable (greater than 10% differences between the variables) have been reported. The associations between variables are summarised in tables showing counts and percentages.

Representativeness of the sample

Basic demographic data was collected via the questionnaire. Volunteer training records were kept in a secure data base by the training organisation and were not directly available to the researcher. However demographic data from this study was referred to the training organisation that provided advice on the representativeness of the sample collected. When compared to the volunteer training

data base there was an over sampling of females and older age groups in the study (personal communication 22nd November 2003).

Results

Adequate skills to perform designated tasks

Only volunteers who had undergone the training programs were recruited into the study. Data was collected on additional abilities of the study cohort. These additional abilities were gained through previous experience volunteering at OMFs and the type of work usually undertaken. In the study cohort there were volunteers with extra abilities gained through professional experience from:

- health related industries (23 percent);
- previous experience volunteering at the study festival (50 percent); and
- other OMFs (22 percent).

Twenty six percent of the participants reported no other abilities or experiences beyond the training offered by the festival organisers.

Awareness of problems that may arise

Awareness of problems (public health and safety hazards)

The participants were asked to identify the main public health and safety hazards likely to impact on the areas where they worked. Ninety-two percent of the participants reported hazards associated with the festival. The most commonly reported hazards were vehicle related hazards, aggressive behaviour of patrons, waste management and fire related hazards. The remainder considered that the festival was well managed and there were no likely hazards (refer to Figure 1).

Figure 1. Priority hazards identified

Public health hazards identified	Hazards identified
Vehicle related hazards	20.0%
Aggressive behaviour from the patrons	14.0%
Waste management related hazards	14.0%
Fire related hazards	12.0%
Drug & alcohol related behavioural hazards	6.0%
Medical conditions	6.0%
Trips and falls (due to uneven ground)	6.0%
Crowd safety	4.0%
Contamination of the water safety	4.0%
Inadequate lighting	2.0%
Dust nuisances	2.0%
Sun exposure	2.0%
None – well managed	8.0%
TOTAL	100%



Volunteer briefing

Understanding control measures for identified hazards

The participants were considered to have an understanding of control measures if they could identify measures used at the study festival and identify their involvement. Sixty-seven percent of the participants who identified hazards also had an understanding of the control measures used to manage these hazards at the study festival.

The participants provided examples of the control measures used at the study festival to manage the identified hazards. For example the control measures reported by the participants used to improve vehicle safety for the camping areas included:

- limiting vehicle movements within camping areas;
- redirecting vehicles away from camping areas; and
- enforcing the speed limits set for the festival.

Previous experience of volunteering at OMFs was associated with this awareness. Over 60 percent of the participants who had previous experience volunteering at the study festival and 75 percent of those who had volunteered at other OMFs had an understanding of control measures used at the study festival. Comparatively, only 38 percent of the participants without experience volunteering at the study festival and 53 percent of the participants without experience at other OMFs, reported understanding the control measures used.

Awareness of roles, responsibilities, contingency and emergency procedures

Emergency management at the study festival

The following relates to volunteer awareness of emergency management for locations in the study festival. The participants were asked if they had an awareness of the festival's emergency management plan (EMP) and their responsibilities within this plan.



Vehicle safety was a major concern according to the volunteers (volunteers in the yellow safety vests)

They were also asked if they could identify the person responsible for localised emergency co-ordination.

(a) The festival Emergency Management Plan

The greater proportion of the participants (82 percent) indicated an awareness of the festival's EMP. The remaining participants indicated that they had either no awareness of any EMP or offered no comment. Ninety-five percent of the participants with awareness of the EMP also had an understanding of their responsibilities within that Plan.

(b) Localised emergency co-ordination

Eighty percent of the participants were able to correctly identify the person responsible for the co-ordination of emergency responses within their individual work areas. The remainder either did not know who that person was or provided no response.

Previous experience volunteering at the study festival was associated with increased knowledge of localised emergency co-ordination. Over 90 percent of the participants who had volunteered previously at the study festival could identify an emergency co-ordinator compared to 73 percent of those without that experience.

Emergency situations and volunteer confidence

The participants were asked to identify the emergency situation they were most likely to encounter at the study festival. The participants identified a total of eight different emergency situations that they might encounter. The most commonly reported situations were crowd crushes, fire incidents, and dealing with a variety of medical conditions (refer to Figure 2).

Figure 2. Types of potential emergency issues	
Emergency situation identified	Responses
Crowd crushes (including overcrowding and pinch points)	22.0%
Fire incidents (involving tents and resulting burns)	22.0%
A variety of medical conditions (including dehydration, exhaustion and cardiac arrest)	22.0%
Patron violence (caused by ticket issues or drugs or alcohol)	8.0%
Injuries caused by vehicle	8.0%
Extreme cases of sunburn	2.0%
Emergency evacuation	2.0%
Food poisoning	2.0%
No issue or response given	12.0%
Total	100%

The participants were asked to rate their level of confidence (ranging from 'not confident' to 'very confident') to deal with an emergency situation at the study festival (refer to Figure 3). Overall, 94 percent of the participants considered they would respond with some level of confidence if an emergency situation arose in the areas worked. From this group, almost half reported having a very high level of confidence

Figure 3. Distribution of confidence levels of volunteers					
Not confident	Undecided	Confident	Quite confident	Very confident	Total
2.0%	4.1%	22.6%	24.6%	46.7%	100%

Missing Datum = 1

Figure 4. Training and volunteer capacity

Knowledge	Australian study cohort	European study cohort	
		Training only	Training/experience
PH* Hazards	71.0%	92.0%	92.0%
PH control measures	44.0%	38.0%	82.0%
EMP	24.0%	83.0%	87.0%
Localised co-ordination	44.0%	73.0%	91.0%

(*PH = Public Health)

Australian study cohort data originally reported in Earl, Stoneham & Capra (2003)

Training and volunteer capacity

Figure 4 represents the responses from:

- the volunteers for the Australian study and European study who only reported having received training; and
- the European volunteers with training and experience for the key knowledge variables of the studies.

(a) Comparison within the European cohort

When comparing the proportion of responses between the European participants who only reported training to those with training and experience, proportions were the same for knowledge of hazards and similar for awareness of the festival EMP. The participants with training and experience reported better proportions of knowledge for localised emergency co-ordination and significantly higher proportions for control measures.

(b) Comparison with the Australian cohort

The most notable difference for the skill variables between the Australian and European studies was that only 36 percent of the participants in the Australian study reported having received useful training. This useful training had been provided by organisations such as the State Emergency Service and Rural Fire Services (Earl, Stoneham & Capra 2003).

The European participants with training and experience had better proportions for all key knowledge variables than the Australian study cohort. The European participants who reported only receiving training had better proportions than Australian participants for most of the key knowledge variables. However understanding of control measures at their respective study festivals was reasonably similar. Similar to the European study, Earl, Stoneham and Capra (2003), also found an association with understanding of control measures and previous volunteer experience within their study cohort.

Discussion

Adequate skills to perform designated tasks

All the participants in the European study had received the festival training with an additional 72 percent reporting other capabilities gained through professional

and volunteering experience. It was expected that the cohort should be able to show a good level of knowledge and have a good mix of experience and professional expertise (HSE 1997 cited in HSE 2003). The study findings concluded that the study cohort met the HSE recommendations (ibid).

It appeared that a good volunteer capacity had a positive affect on the volunteer services provided for the study festival. The organisers of the event completed a performance evaluation and found that 'stewarding (volunteer) standards at the 2003 festival were the highest ever' (ACCESS 2003 pg 2).

Awareness of problems that may arise and understanding of the control measures

The majority of the participants (92 percent) identified public health hazards they were likely to encounter at the study festival. Sources of these hazards included vehicle movements, waste management, aggressive behaviour and fire hazards. Understanding of control measures for these hazards was lower with only 67 percent of the cohort able to identify control measures for these hazards. The participants who reported only having received the festival training responded very poorly to this question. Notably, there was a positive association between knowledge of control measures and previous experience volunteering at the study festival. These findings show an apparent weakness to relying on training as the sole source of capacity building for volunteers at OMFs. This provides a good argument to encourage the retention of experienced volunteers.

Awareness of roles, responsibilities, contingency and emergency procedures

The European study cohort had a very good of awareness of emergency management at the study festival. Awareness of the festival EMP was not associated with previous experience volunteering at the study festival however understanding of responsibilities within the EMP and knowledge of emergency co-ordination was associated. Importantly, a very small portion of participants were unable to identify a person responsible for emergency co-ordination.

Interestingly, the majority of this study cohort also considered they could respond confidently to an emergency situation if it arose. Potential emergencies likely to be encountered at this study festival included injuries from crowd crushes, fire hazards and a variety of medical conditions. These situations would have potentially serious implications for the patrons involved.

Comparison with the Australian cohort

A similar study of volunteers at a large OMF was previously conducted in Australia (Earl, Stoneham & Capra 2003). When comparing the findings from the two studies the participants in the European study reported better overall knowledge than the Australian participants. In terms of the skill variables used in the studies, the major difference between the two study cohorts was the amount of training received. Only 36 percent of the Australian participants reported receiving training that was not initiated by the festival organisers or tailored to the demands of that festival. Alternatively all the European participants had received training to support their work at that festival.

Earl, Stoneham and Capra (2003) reported a particular concern regarding awareness of emergency management for that festival. These authors found that less than a quarter of their participants (24 percent) had awareness of emergency management for that festival. This was not the case for the European study where those participants had a good awareness of emergency management. There is evidence that the training programs offered at the European study festival have been influential in this area. Both studies found an

association between previous experience volunteering and understanding of control measures for the hazards identified and knowledge of emergency co-ordination (Earl, Stoneham & Capra 2003).

Implications for volunteers

The Australian study reported by Earl, Stoneham and Capra (2003) showed some deficiencies in volunteer knowledge within that cohort. Particularly low was awareness of emergency management at that event. Encouragingly, the European participants demonstrated much better levels of awareness for public health and emergency management. In terms of the skill variables in the studies, the greatest difference between the two study cohorts was the level of training reported by the participants. There was sufficient evidence in these findings that volunteers working at OMFs would benefit from receiving training programs similar to those given to the European participants.

It was also evident that previous experience volunteering was positively associated with a number of key knowledge variables within the two studies. These findings provide an argument to encourage the retention of volunteers in order to improve volunteer capacity at OMFs.

Limitations of the study

There are two main limitations associated with this study. Firstly there was a concern regarding the representativeness of the sample as it was determined that there was over sampling of older volunteers and female volunteers in the study (Bouma 1996). Secondly,



Oxfam volunteers working at the gates (orange vests)



Fire safety volunteers (red vests)

the use of a cross-sectional research design did not allow for the identification of causal factors related to the study findings (Hedrick, Bickman & Rog 1993).

Conclusion

This study has investigated the awareness and skills of a sample of volunteers from a European OMF. The study findings revealed the majority of the study participant's demonstrated good awareness of public health and emergency management and reported a good mix of capabilities gained through training and experience. In total, the level of capacity found within the participants was considered appropriate to assist them in carrying out their responsibilities at the study festival.

The organisers of the European festival had introduced training programs for volunteers working at this festival. The European study participants had much better knowledge than those in a similar study undertaken by Earl, Stoneham and Capra (2003) at an Australian OMF. Most notably the Australian study festival did not offer training programs for their volunteers. There was sufficient evidence from these studies that the tailored training programs given to European participants contributed to their volunteer capacity. Consequently it is strongly recommended that volunteers working at OMFs receive training tailored to meet the demands of the events where they are working.

References

- ACCESS (2003) *Training volunteer stewards – A scheme of work to train volunteers stewards at outdoor events*, Access Training Consultants Ltd publication, England.
- Au SYZ, Ryan MC, Carey MS & Whalley SP (1993) *Managing crowd safety in public venues: a study to generate guidance for venue owners and enforcing authority inspectors*, Health and Safety Executive Publication, England.
- Bouma GD (1996) *The research process (3rd edition)*, Oxford University Press, Melbourne.
- Crowd Management Strategies (2003) *News and views*, <http://www.crowdsafe.com/new.asp?ID=92>, accessed on the 3rd January 2003.
- Earl C, Stoneham M & Capra M (2003) Volunteers in public health and emergency management at outdoor music festivals, *The Australian Journal of Emergency Management*, Vol 18, No 4, November.

Emergency Management Australia (2003) *Suppose there was an emergency and nobody came, guidelines for managing the risks of using volunteers in emergency management situations*, Canberra, Emergency Management Australia Publication.

Glastonbury Festival Limited (2002) 'marketing plan – Glastonbury Festival 2002', <http://www.glastonburyfestivals.co.uk/2002>, accessed on the 27th August 2004.

Glastonbury Festival Limited (2001) '2001 – steward training', <http://www.glastonburyfestivals.co.uk/2001/stewardscertified.html>, accessed on the 30th August 2004.

Health and Safety Executive (2003) *'Good practice and pitfalls in risk assessment'*, England, HSE publication.

Hedrick TE., Bickman L. and Rog DJ (1993) *Applied research design – a practical guide*, SAGE publications, London.

Lakin C, Brown C, & Williams M (2001) 'From Dusk 'Til Dawn' EHJ, *Environmental Health Journal*, January edition, <http://www.ehj-online.com/archive/2000/jan2001/january4.html>, accessed on 20th July 2004.

Mendip District Council (2000) 'Minutes from the Regulatory Board held on the 12th October 2000', Somerset, MDC publication.

Morton, R.F, Hebel, J.R., MsCarter, R.J., (1990) *A study guide to epidemiology and biostatistics*, Maryland, Aspen Publications.

National Outdoor Events Association (2004) *Training and development* (Guidance Note 03.04), NOEA publication, <http://www.noea.org.uk/training.htm>, accessed on the 11th of June 2004.

Personal communication (22nd November 2003) with ACCESS Training Consultants, England.

Portney LG & Watkins MP (1993) *Foundations of Clinical Research – applications to practice*, Sydney, Prentice Hall of Australia.

Streiner, Norman & Munroe-Blum (1989) *PDQ Epidemiology*, DC Decker Inc.

Authors

Cameron Earl is a candidate for a Doctor of Health Science with the Queensland University of Technology and has a background in the field of Environmental Health. The research component of this doctorate has focused on public health management at outdoor music festivals and includes investigating the capacity of volunteers at these events to participate in public health management strategies.

Dr Elizabeth Parker is a senior lecturer and post-graduate coursework co-ordinator in the School of Public Health, Queensland University of Technology, Brisbane. She has extensive public health and health promotion experience and is co-author of a book with Dr. MaryLou Fleming, 'Health Promotion in the Australian context: Principles and Practice'.

Martin Edwards is a senior tutor providing training for volunteer stewards at outdoor music events and holds the position of volunteer steward manager at one of the largest a large outdoor music festival in England.

Dr Mike Capra is the Head of School of Health Science at the Newcastle University. He has extensive workplace health and safety and research experience and is currently holding the position of Director of a new centre of research excellence affiliated with the Newcastle University.