Mass Gatherings:

Health Promotion, Provision & Protection

Report on 2011 ESf Scholarship project by:

Dr Stephen Luke OStJ MAIES

State Operations Manager
St John Ambulance (Victoria)


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Mass Gatherings:
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1 Executive Summary

This project studied health planning, resource utilisation and command strategies in use at a range of mass gatherings in London, New Zealand and around Australia.

St John Ambulance was involved in all of these events, providing a combination of first aid, ambulance and medical services. Other health providers involved included specialist water rescue services, NZ territorial medical services, groups of first aid volunteers, Health Department medical teams and statutory ambulance services.

The local statutory ambulance service was involved at all events, and often with responsibility for overall event health command. Strategic planning varied across all events, with many either purposefully or incidentally aiming to maximise onsite patient management and reduce the number of off-site ambulance transports to hospital. Local hospital and health service involvement was limited for most events, although there were examples of an integrated “whole of health” response.

Legislative requirements and links to emergency management differed in each jurisdiction. Some events demonstrated great examples of how mass gatherings can be used to train staff and exercise resources to maintain emergency response readiness. The importance of established organisation/agency role delineation and the presence of a clear command structure was evident at each of the events studied.

The Victorian State Health Emergency Response Plan (SHERP) correctly identifies that mass gathering and emergency response health planning have much in common, however the current version of SHERP requires greater strategic purpose and better integration with local health networks and hospital emergency plans.

St John Ambulance Victoria employs an integrated first aid and health service delivery model and deploys with the strategic intent of safely reducing the impact of the event or emergency on local health and ambulance services. These services are costly to deliver, with high capital overheads and provided without government financial support, and in the absence of enforceable Victorian event first aid and health service standards.

St John Ambulance Victoria has deployed a Medical Assistance Team over 200 times since 2004. Over this time only 10 percent of the 10,000 patients managed at these events have been transported to hospital by ambulance. It is clear to me that there are safe and practical alternatives to traditional ambulance transport models: initial calculations estimate savings from avoided ambulance transports over this period to be well in excess of $1 million.

As ambulance and hospital demand increases and more mass gatherings are held, it is important to explore alternatives to traditional ambulance-hospital treatment models. This project has highlighted a range of different pre-hospital health service delivery models. I hope that this report will reinvigorate and support discussions around:

- regulation of pre-hospital health service delivery in Victoria
- revision and strategic refocusing of Victorian emergency health service policy
- recognition of the importance of volunteers in emergency health service delivery

The strategic objectives described in this report provide a framework for pre-hospital advanced practice health service delivery and are presented with evidence accumulated during this study period. With shared strategic objectives and enforceable event health planning standards, there is great potential to significantly reduce the impact of mass gatherings and emergencies on local health and ambulance services.


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2 Introduction

Mass gathering medicine is an emerging specialty due in large part to the growing realisation of the health impact of these events. Much of the current research focuses on the public health impact of mega events (eg. the Olympics, the Hajj, FIFA World Cup), predictive modelling and case series from music festivals and other specialist events.

St John Ambulance Victoria has developed an advanced practice and medical team model that is applicable to the wide range of major events encountered in Victoria and readily deployable during emergencies. St John first aiders and health professionals work closely with Ambulance Victoria to provide a continuum of pre-hospital health care within the framework established in the Victorian State Health Emergency Response Plan (SHERP).

The Victorian SHERP remains heavily focused on the management of pre-hospital first aid and ambulance practice. The role and use of pre-hospital medical teams is considered in the plan but event medical teams are provided as a commercial agreement with event organisers and emergency deployment of medical teams in Victoria is uncommon. Furthermore, there is limited strategic integration of the pre-hospital and hospital systems and no functional interaction between the SHERP and hospital external emergency (Code Brown) plans.

Event and emergency management share many similarities and the Victorian SHERP rightfully applies SHERP principles to major event health planning. Unfortunately there is no major event health planning standard or first aid industry regulation in Victoria to enforce the SHERP principles, despite the large number of major events conducted in Victoria. Event organisers are therefore free to engage a wide range of first aid and medical providers in the knowledge that the tax payer-funded ambulance service will need to absorb any additional workload. This is increasingly problematic when considered in the context of the current unprecedented demand for ambulance and emergency department resources.

The degree to which an event impacts on local health and ambulance services is often felt most acutely at times of high demand (eg. heat wave) and in rural and remote areas with pre-existing health resources limitations and prolonged transport times to larger centres. Health service demand is compounded further at, and the benefits of onsite medical teams more pronounced by, events with patrons suffering specialist and / or complex conditions: this may include adverse effects of alcohol and recreational drug use, endurance medical illnesses and large numbers of injuries resulting from high-risk events.

Most mass gatherings are managed on a tight budget with stringent commercial and/or political interests. In Victoria, St John and Ambulance Victoria independently charge event organisers a structured cost recovery fee-for-service for dedicated event resources. The final decision on what resources are allocated to an event is often heavily influenced by an event organiser's capacity and willingness to pay, in contrast to the rigid event health planning standards introduced in the United Kingdom following the Hillsborough football tragedy.

The events visited during the course of this project have highlighted a number of opportunities for Victoria to improve its approach to major event health planning and management. I propose that this begin with greater strategic use of pre-hospital definitive care and improved functional integration of the pre-hospital and hospital sectors during planning and operational phases. It is hoped that interest in the development of best practice pre-hospital health service standards and first aid industry regulation in Victoria will be reinvigorated by the objectives, clinical and event examples discussed in this report.


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3 Project Objectives

The objectives of this project are to:

- Review health service delivery models at a range of events, including:
  - Hospital & ambulance avoidance strategies
  - Event health planning & management
  - Health promotion & surveillance
  - Interface with local health & emergency services
  - Optimal utilisation of all local health resources

- Develop guidelines for medical team deployments

- Improve recognition of St John Ambulance contribution to health service provision at local events & mass gatherings, with flow-on effect on:
  - St John volunteer recruitment, recognition & retention
  - Recruitment of volunteer health professionals
  - Recognition by professional clinical colleges and associations

- Establish framework for ongoing quantitative research

In addition to the specific projective objectives listed above, this project was undertaken in the hope that it would reinvigorate discussion about legislated health planning standards for mass gatherings in Victoria. This includes but is not limited to the current State Health and Medical Sub-Committee review of First Aid at Public Events and Mass Gatherings.

Many of the structures and systems used at mass gatherings are equally applicable to health emergency management. This is reflected in the Victorian State Health Emergency Response Plan (SHERP) forming the basis of mass gathering health planning but there are limitations inherent in this plan. Findings from this event-based study are also extrapolated to health emergency management and perceived opportunities for improvement.


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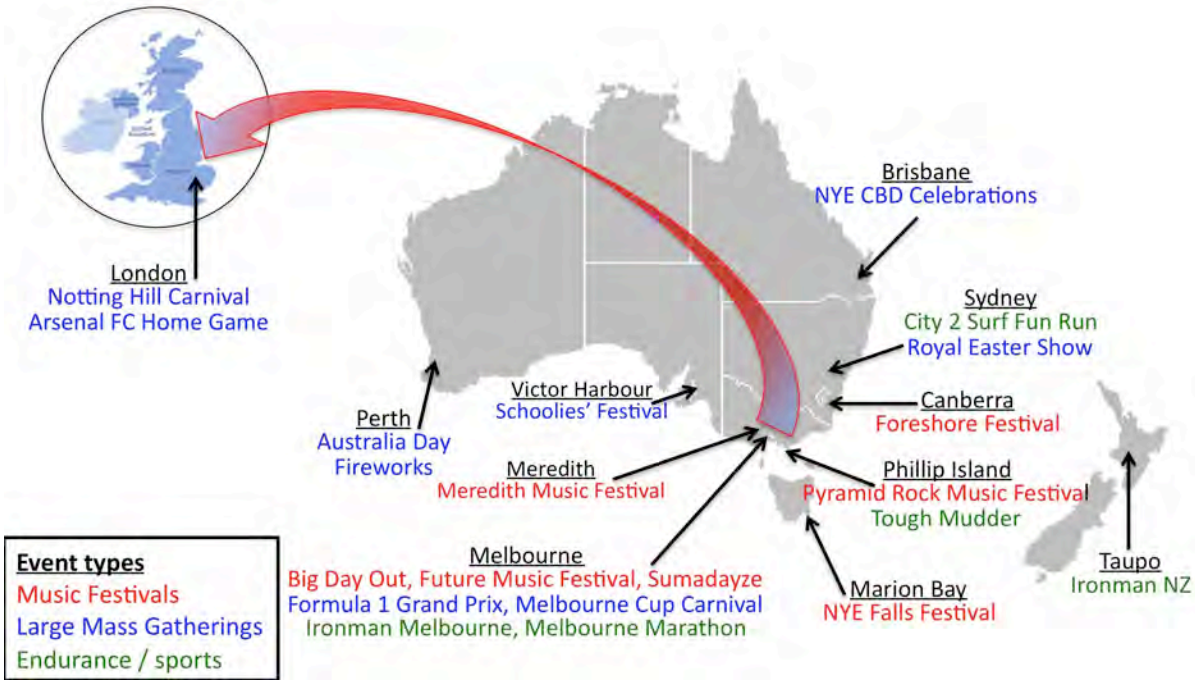
4 Travel Itinerary

The project travel schedule included 20 events, covering a range of event types, sizes and locations from August 2011 to April 2012. The events and locations (listed below) were chosen to demonstrate differences in event health planning, service provision and health command models.



Date	Event	Sport	Rural	Music Festival	Residential	Total Attendance > 100,000	Attendance
Aug-11	City 2 Surf (Sydney)	✓				✓	85,000 entries
	Notting Hill Carnival (London)			✓		✓	1.5 million
Sep-11	Emirates Stadium (London)	✓					50,000
Oct-11	Melbourne Marathon	✓					25,000 entries
Nov-11	Melbourne Cup Carnival					✓	400,000
	Schoolies Festival (SA)		✓	✓	✓		20,000
	Foreshore Festival (Canberra)			✓			20,000
Dec-11	Meredith Music Festival		✓	✓	✓		15,000
NYE	Brisbane CBD						30,000
NYE	Pyramid Rock Music Festival		✓	✓	✓		15,000
NYE	Falls Festival (Tas)		✓	✓	✓		15,000
Jan-12	Summadayze Music Festival			✓			25,000
	Australia Day Skyworks (Perth)					✓	150,000
	Big Day Out (Melb)			✓			40,000
Mar-12	Ironman NZ	✓	✓				1,500 entries
	Future Music Festival (Melb)			✓			45,000
	Formula 1 Grand Prix					✓	250,000
	Ironman Melbourne	✓					1,500 entries
Apr-12	Tough Mudder	✓	✓				22,500 entries
	Royal Easter Show (Sydney)					✓	1 million

5 St John Event Services

St John is a self-funding charitable organisation committed to saving lives through first aid. St John aims to increase community resilience and self-sufficiency through a variety of programs: this includes first aid training in schools, industry and community groups, gifting of defibrillators to community groups and the sale of first aid equipment and consumables.

St John first aid and health services are provided at local events, mass gatherings and during emergencies. Service delivery is similar in all Australian states and territories, with volunteers providing the majority of event day services within a standard national first aid and clinical accreditation framework. All adult St John members are taught basic life support, including how to use a semi-automated external defibrillator. Cadet members (under 18 years) learn first aid, leadership, life skills and practice their skills under direct adult supervision. Advanced practice is governed by St John national clinical practice guidelines. These are fully indemnified, cover all Advanced Responders and Health Professionals and maintained by the national St John Medical Advisory Panel.

Event and emergency planning and command principles are the same in all jurisdictions and based on AIIMS/ICS principles. The extent of support staff and resources committed to mass gatherings and emergency response varies depending on the number, size and complexity of major events. Event bookings are predominantly managed centrally through each state/territory office, with first aid and health services provided within a cost-recovery fee-for-service model. Cross-border interstate deployments for events and during emergencies are facilitated within St John National Emergency Coordination Arrangements.

Components of service delivery models are summarised below:

5.1 Event Statistics

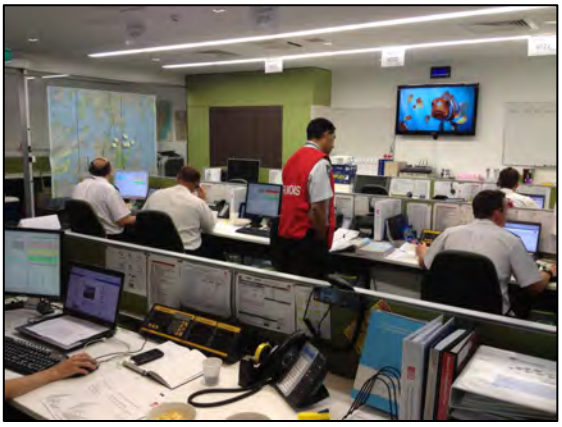
- Annual event coverage: 3,500+ (Vic), 24,000+ (nationwide).
- SJ Vic provides health services to more than 50 major events a year, in addition to regular service delivery at major venues, including the MCG, Etihad Stadium, Flemington Racecourse and Melbourne & Olympic Park Trust venues
- SJ Vic has deployed a Medical Assistance Team over 200 times since 2004

5.2 Integrated Service Delivery Models

- Standardised event planning processes
- Single event day / emergency command structure
- Integrated & indemnified clinical framework
    - First aider → First Responder → Advanced Responder
    - Health Professionals: doctors, nurses & paramedics
- Resource allocation in accordance with standard Priority Dispatch Grid
- Dedicated support services & infrastructure
- Established emergency management procedures

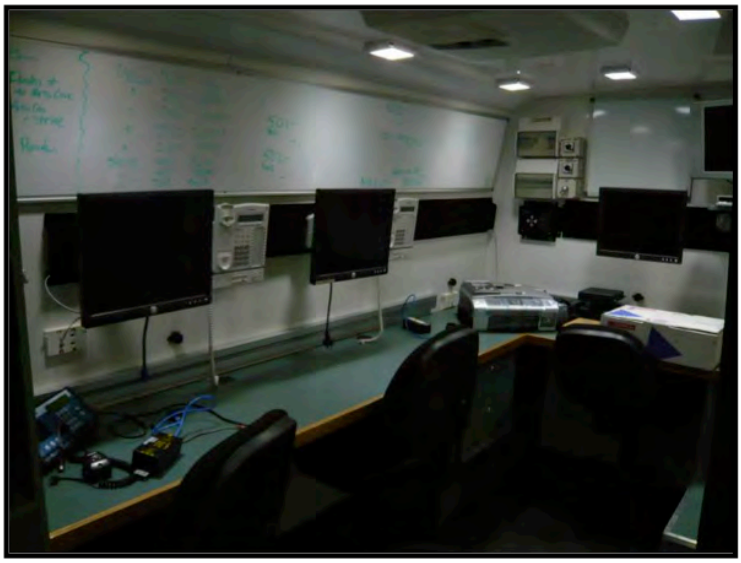
5.3 Advanced Practice Models

- Independent Health Professionals
- Health Emergency Response Teams (HERTs)
    - Mobile resource, crew of 2 members. May operate on foot, bike or in a vehicle
- Medical Assistance Team (MAT)
    - Static multi-disciplinary team. Medical (doctor) governance. Short stay model
    - Size, capacity & scope of practice dependent on deployment requirements
- Support framework
    - National clinical practice guidelines
    - State clinical governance team & clinical audit process
    - Medications licence / drug permit

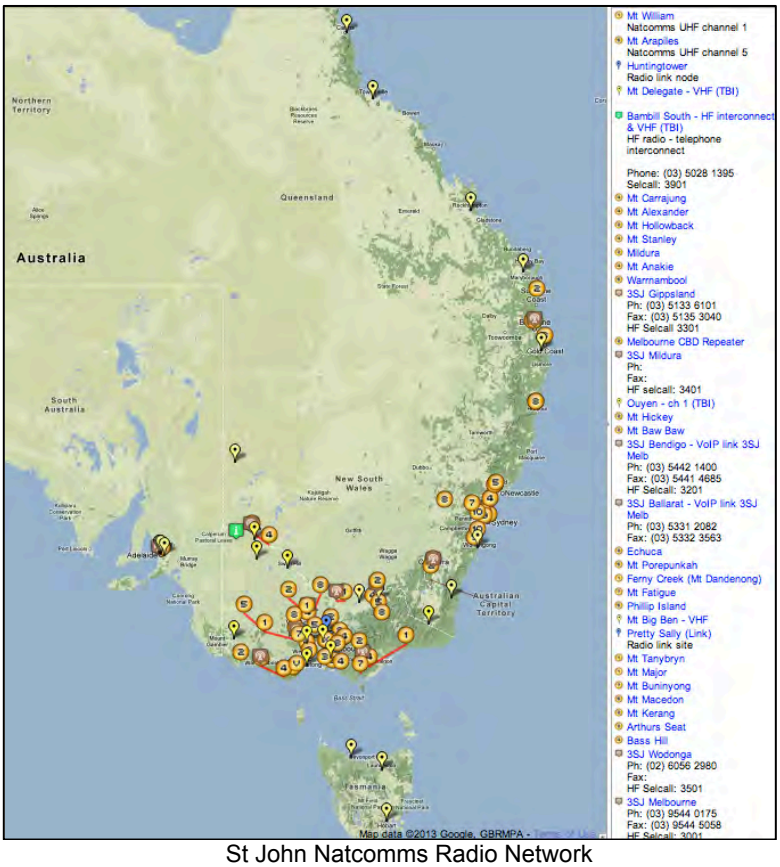


State Communications Centre
State Operations Centre (St John NSW)

State Communications Centre
Event & Emergency Command Centre
(St John Vic)



State Communications Vehicle (SJ1, Vic)



St John Natcomms Radio Network

5.4 Event Planning (Vic)

- Client-focussed paid customer service team 7 days a week
- Web-based Event Management System
- Structured risk assessment for all event bookings
  - Additional assessment for mass gatherings & emergency response
- State Major Event & Venue committee meets monthly (plan & review events)
- Structured event planning checklist
- Event Planning & Operations Order templates (> 50/yr produced & distributed widely)
- Collaborative planning for mass gatherings with ambulance

5.5 Command & Commander Training

- National AIIMS/ICS-based command standard
- Structured Victorian commander training program
  - Tiered credentialing framework
  - Supervised command roles to support skill development
  - Satisfactory completion of a prescribed range of events, emergency response, liaison and support service roles at each level before progression
  - Internal courses: Team Leader, Introduction to Command, Event Command & Emergency Command
  - External Courses: Introduction to Emergency Management, Incident Control Systems (ICS), Major Incident Medical Management & Support (MIMMS)
- Deliberate content overlap between Emergency Management & Event Command
  - Use of events to train commanders for emergency response
  - Standardised event and emergency command position descriptions

5.6 Staffing

- Staffing negotiated with event organiser within structured fee-for-service model
- Skill mix determined by operational and clinical risk assessment
  - Volunteer nurses, paramedics & doctors, including Intensive Care Paramedics, Critical Care Medical and Nurse Specialists
- Medical team model designed to accommodate locum/external doctors as required

5.7 Support Services

- Bicycle Emergency Response Teams
- Communications & Technical Support Teams
- Clinical Logistics Team, supporting HERT and MAT deployments
- State Logistics Team, including dedicated major event & emergency response resources
- State equipment standards for major events, vehicles & emergencies

5.8 Patient Transport (Victoria, unless otherwise stated)

- State Vehicle Fleet (Vic) – 110 vehicles with 550 seat total capacity
  - 70 stretcher (10 4WD) vehicles (AS/NZS ambulance standard compliant)
  - People movers & patient transport allocated to events for surge capacity
- St John Vic requires authority from Victoria Police or Ambulance Victoria Health Commander to transport patients on registered roads
  - Legislation is interpreted and enforced inconsistently
  - Event transport is complicated by Non-Emergency Patient Transport legislation
  - St John Vic has a NEPT licence but does not provide event day transport services
  - Further confusion and complication with events encompassing registered roads
- Patient transport to hospital
  - Some patients transported to hospital because ambulance does not recognise SJ MAT as a hospital-equivalent for discharge / handover purposes
  - St John SA has a standing agreement to transport patients to hospital from events
  - St John NT, NZ & WA provided statutory ambulance services

5.9 Radio Communications

- Standard national radio callsigns & channel profile (UHF, VHF & HF licences)
- Comprehensive standalone radio communications network & communications centres
- Standard call-taking & dispatch systems & resources, including Computer Aided Dispatch

St John Vic Medical Assistance Team, Ironman Melbourne

6 St John Vic Medical Assistance Team

A St John Victoria Medical Assistance Team functions as an integrated part of the event or emergency health response: this includes other St John first aid and support services, Ambulance Victoria and any other health providers involved in the event. The clinical scope of practice and capacity of the MAT is based on a structured risk assessment, incorporating the nature of the event, clinical risk and the availability and proximity of local health & ambulance resources.

The decision to include a MAT in the health plan is a complex interplay between St John, Ambulance Victoria and the event organiser. With minimal enforceable legislation governing event health planning in Victoria, it is contingent on both St John and AV to independently and collaboratively justify event health resource proposals and then negotiate the commercial realities of a user-pays fee-for-service model.

6.1 Deployments

St John Victoria Medical Assistance Teams (MAT) have been deployed over 200 times since inception in 2004, with over 30 deployments a year for the last 4 years (see below).

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
MAT deployments	2	3	20	23	23	31	43	39	35

MAT deployments vary greatly in size, complexity and clinical requirements. Capacity and scope of practice are flexible and tailored to event day requirements that may include:

- Music Festivals – crowd (5,000 – 50,000), single & multi-day, residential rural events
- Running Festivals – participants (5,000 – 40,000), half & full marathons
- Endurance Events – Melbourne Marathon, Ironman Melbourne, Great Ocean Rd Marathon
- Rural Events – Audax Endurance Cylcing (Alpine NP N/E Vic), Meredith Music Festival
- Emergency Response – Whittlesea (Black Saturday) & on-call 24/7 thereafter

6.2 Scope of Practice

Advanced clinical practice skills & procedures used in the MAT are in part dependent on the attending clinicians but a baseline level is always provided, including:

- Resuscitation – advanced airway management, fluid resuscitation, cardiac monitoring
- Wound management – assessment, cleaning, suturing, dressing & ongoing referrals
- Joint injuries – assessment, reduction of dislocated joints, ongoing referrals
- Fracture management – assessment, stabilisation, pain relief, plastering of limbs

Senior St John health professionals have extensive experience working in the out-of-hospital environment. Junior professionals and those with less pre-hospital experience are mentored and educated about the challenges, opportunities and differences of clinical practice in this unique practice environment.

6.3 Staffing

Volunteer St John health professionals staff all St John MAT deployments, with many of the senior registered nurses, paramedics and medical practitioners having post-graduate experience and qualifications in emergency and critical care. Junior health professionals and students are actively involved, mentored and supervised. The staff mix is determined by the expected clinical workload and will always include at least one medical practitioner: this may occasionally require the use of a paid locum if a volunteer SJ doctor is not available.

Event day staffing allocations are analogous to those in most emergency departments, with staff designated to triage, clinical work areas or support roles (admin, logistics). A senior clinician is appointed to coordinate treatment and a MAT Supervisor provides the operational interface with ambulance, event organisers and the St John command team.

St John Ambulance Australia
MEDICAL ASSISTANCE TEAMS

Appendix D: Floor Plan Guidelines (Apr 11)

The size, layout and quality of facilities available to establish a MAT will depend on many factors but is generally best done in an established structure with pre-existing lights, power, drinking water and toilets. Where such a structure is not available, efforts made in the planning phase to have these components provided by event organisers will greatly reduce the size and complexity of the St John response and infrastructure required. "Safe and Healthy Mass Gatherings" is a reference manual produced by Emergency Management Australia and lists the following requirements for event site or field hospitals:

- Clean water;
- Electricity for medical appliances and adequate lighting in tent hospitals at night. This should, if possible, include a back-up power system;
- Washroom/rest facilities for the exclusive use of staff and patients;
- Meals for staff;
- Flooring: tents for hospital usage must have flooring as part of the structure to contain the service and to prevent ingress of water and/or insects;
- A landline telephone service for ordering of additional staff or supplies and for notifying hospitals of patient transfers. Note that cellular telephones should be seen as a back up device only;
- Reserved access roads for emergency vehicle usage; and
- Dedicated disposal containers for ablutions, hazardous wastes and sharps.

MAT equipment structure principles

When establishing a MAT the following factors must be considered:

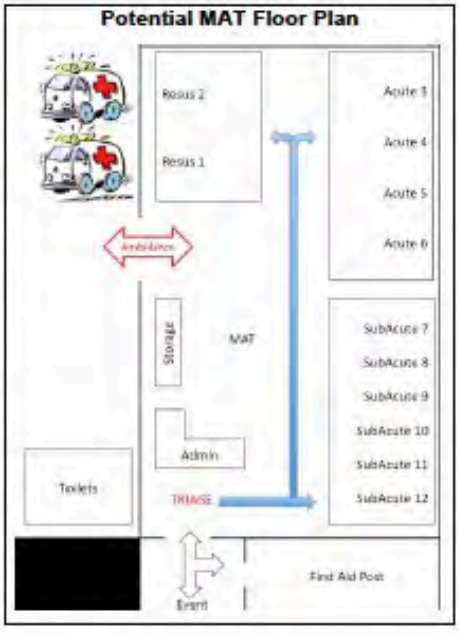
- MAT patient access & egress
- Preferred collocation with standalone First Aid Post
- Efficient, safe and unobstructed workflow through the MAT, including dedicated triage, administration, patient care & secure storage areas
- Off-duty areas for members
- Ambulance access & egress, including dedicated external access point

Patient care areas should be pre-determind based on patient acuity & resourced accordingly (recommended bed:staff ratios)

- Resus (1:1)
- Acute (2:1)
- SubAcute (4:1)
- Procedure (if space available)

An example of a MAT floor plan & workflow is included (right)

Potential MAT Floor Plan



6.4 Location

The location of the MAT is critical and is an important part of major event health planning. The decision must be made collaboratively with ambulance and then negotiated with the event organiser. This decision is inevitably affected by commercial factors, the appropriateness of existing structures and the availability of power, water and other essential services.

A MAT is ideally located on an external boundary that provides sufficient vehicle parking and unimpeded ambulance access and egress, while maintaining easy access for patient transport from within the event or incident footprint. Correctly locating the MAT will avoid unnecessary delays extricating patients from the event and will facilitate the MAT providing a filtering role for all patients being transported offsite. This is of particular importance with critically unwell where early patient access and initiation of treatment is paramount.

When properly located and used to its full potential, the MAT functions as a secondary (medical) triage and treatment point. This is analogous to the role of a Casualty Clearing Post, for use in the management of a mass casualty incident, as defined in the Victorian State Health Emergency Response Plan (SHERP).

A first aid post is ideally co-located with a MAT. Lower acuity patients are managed in the first aid post, providing a clinical demarcation and capacity for escalation and step-down in patient care between the two areas. A single shared triage filter further increases efficiency.

6.5 Facilities

Securing an appropriate facility from which to operate a MAT is often one of the most difficult negotiations during the event planning processes. The capacity and scope of practice of the MAT is often determined by the facility provided and is often best suited by the use of an existing large room or building or the installation of a large temporary marquee or site-hut.

Important considerations include:

- Size – room for sufficient beds, administration, triage, delineation of patient treatment areas
- Environmental – flooring, drainage, wind-rating of temporary structures, noise, cleanliness
- Availability of running water, power, lighting, heating / cooling, toilets
- Security – member safety, equipment storage for multiple-day deployments

During an emergency, there are often limited choices and the St John MAT can be deployed with a portable, lightweight marquee by one of two dedicated St John logistics vehicles.

6.6 Equipment

All St John advanced practice equipment is portable and has been chosen or adapted to be suitable to the out-of-hospital environment. Three deployment models are currently in use:

- Primary deployment – stored & transported in dedicated 5 tonne truck
  - Best suited to large deployments in a large, pre-existing structure
- Secondary deployment – stored & transported in a dedicated long-wheel base van
  - Best suited to small & intermediate deployments
- Portable (response) kits & support equipment
  - Best suited to Health Emergency Reponse Team (HERT) deployments

Each deployment carries consumables and equipment to support a combination of:

- Management of large numbers of patients simultaneously (beds, stretchers, chairs)
- Secure storage of scheduled medications
- General and cardiac monitoring
- Advanced airway management
- Wound management, including cleaning and suturing
- Management of fractures and joint injuries
- Basic blood tests using iStat point-of-care testing
- Administration and logistics support

St John Ambulance Australia
MEDICAL ASSISTANCE TEAM

Appendix F: Extended Patient Care Principles (Apr 11)

St John

- Improve patient condition, including advanced life support, airway protection, analgesia, wound closure and injury reduction
- Avoidance of offsite transport for patients with conditions known to be discharged

Patient Condition	Onsite Management Principles	Comments
Airway compromise	• Airway protection (RSI as indicated)	Dependent on MAT staff experience
Alcohol & drug intoxication	• DRABC, antidote administration • IV access, regular obs +/- monitoring	Consider drug half-life, treatment options General approach: being with 60min stay & regular review
Agitated / violent patients	• Physical restraint, sedation	Priority: staff, patron & patient safety. Police/security involved
Allergies & anaphylaxis	• Adrenaline, steroid, anti-histamine	Potential discharge home from event
Bone & joint injuries • Joint dislocations • Closed fractures • Open fractures	• Reduction for analgesia, perfusion • Immobilisation • Reduction, cleaning, antibiotics	Urgent reduction of injuries with critical distal perfusion deficits; many fractures do not require ambulance transport once splinted and can be managed with outpatient follow-up; early antibiotics for open fracture; nerve block for analgesia
Burns • Airway & facial • Other	• Airway protection (as required) • Assess referral / follow-up needs	Analgesia; determine need for immediate transfer, same day referral or delayed review
Cardiac arrhythmias	• Capture rhythm, rate control, reversion	Diagnostic, therapeutic (eg. SVT treatment & discharge)
Head, neck & facial injuries • Cervical spine injury • Loss of consciousness	• Assess clinical clearance of neck injuries • On-site head injury / neurological obs	NEXUS / Canadian neck rules; assess degree of HI; on-site neuro obs for mild HI (consider hospital transport time)
Heat / physical exhaustion	• Assess & treat dehydration (oral / iv), i-stat	High risk endurance events
Medical • Diabetes • Respiratory • Seizures	• Treat for normalisation of BSL • Oxygen, bronchodilation • Seizure treatment, post-ictal observations • Assess, oxygen, analgesia, stabilise	Consider discharge if rapid and sustained recovery. Urgent transport +/- RSI for refractory seizures (status) and stroke with persistent neurological deficit
Pain • Ischaemic Chest • Severe abdominal • Musculoskeletal	• Aspirin, ECG, GTN, analgesia • Analgesia, determine clinical concern • Analgesia, referral needs	12 lead ECG risk stratification; pregnancy determination; Immediately transport pts: ECG changes, AAA rupture, ectopic pregnancy. Treat bilary/renal colic/gastritis onsite
Trauma • Chest, abdomen • Major haemorrhage	• Brief assessment & stabilisation • Stop bleeding, fluid replacement, obs	No delay of major trauma transfer to trauma centre, providing ABC stable
Wounds (open)	• Assess, analgesia, clean, close, refer	Delayed off-site review to remove sutures

St John Vic Extended Patient Care Principles
Explanation of assessments & interventions for specific patient presentations
Introduced to increase ambulance understanding of therapeutic benefits of medical intervention

6.7 Optimal Utilisation

The St John Vic MAT is integrated into the entire event health plan, with patients referred from within the event to the MAT for further assessment and management. The MAT is pre-notified of most patient arrivals through the event communications network. Patients are assessed on arrival to the MAT by a dedicated triage health professional and then allocated to an appropriate high, intermediate or low acuity treatment area.

Patients are occasionally transported directly off-site to hospital by ambulance if seen "in-field" by either St John health professionals or ambulance paramedics. Some of these patients require urgent in-hospital management and are best transported urgently to a nearby emergency department (eg. suspected aortic aneurysm rupture, acute stroke, chest pain with ECG changes). In these cases, patient transport to hospital should not be delayed.

The decision to by-pass the MAT, and therefore often review by a medical practitioner, is both a clinical and logistical decision, This decision may be made or over-ruled by an ambulance commander not involved in the patient's care and potentially result in transport offsite by ambulance unnecessarily or more urgently than clinically required. This occurs where there is not a shared strategic plan to minimise offsite ambulance transports to hospital.

The core difference appears to be the lack of an accepted status for a St John Medical Assistance Team, which in turn determines if medical review within the MAT meets the needs of ambulance clinical practice and time critical guidelines. Practically, most paramedics quickly appreciate the convenience of having an on-site medical team, avoiding long waits in busy emergency departments and long drives in rural areas. Ambulance managers in rural areas are comfortable to accept the MAT as a valid hospital-like facility, where this is more frequently challenged or dismissed in metropolitan Melbourne. The MAT also functions as a Casualty Clearing Post (CCP) but is not regarded or used this way by some Health Commanders.

The St John Vic MAT model is most successful in reducing patient acuity and need for transport if all patients are reviewed, even if only briefly, at the MAT prior to being transported off-site. A doctor reviews patients in the MAT within minutes, regardless of acuity, which is far quicker than the delays inherent in ambulance transport and subsequent waiting in a busy hospital emergency department. This approach has the following benefits:

- Need for urgent ambulance transport offsite may be reduced or avoided entirely
- Patient care may be optimised prior to transport
    - Treatment of pain & nausea, improved immobilisation of spinal & skeletal injuries
- Patients are assessed and referred to the most appropriate hospital. For example:
    - A patient with high suspicion of head injuries would be referred to a major trauma centre and not the closest regional or rural hospital
    - A patient with ECG signs of cardiac chest pain or heart attack would be transferred to an appropriate cardiac facility and not just the closest hospital. This is equivalent to standard existing intensive care paramedic practice throughout Victoria
- Once assessed, patients are transferred with a medical referral letter and often a phone call to the receiving hospital. This expedites treatment and allows the receiving hospital to plan for the patient's arrival, especially if specialist services are required
- Optimisation of event ambulance resources:
    - Continuing patient care in the MAT dramatically reduces off-stretcher times and minimises the number of ambulances lost to "ramping" at hospital during the event
    - These ambulance resources can be redeployed within the event – this is particularly important for road-based events (eg. marathons, Ironman) where response times may be critical to patient outcomes
    - Patient transport to hospital can be planned from the MAT as resources become available or are called in to the event or incident from "normal business"

The St John Vic MAT has repeatedly been proven to be an effective filter, safely avoiding or delaying the need for patient transport offsite by ambulance or other means to hospital or another appropriate destination. Ambulance and hospital avoidance strategies, with examples from this study, are discussed in the more detail in the following pages.

St John Ambulance (Vic)
Health Professional Operational Objectives

	HP	HERT	MAT
1. Advanced Life Support All MAT deployments are staffed and resourced to provide advanced life support to critically unwell patients. Senior medical officers and intensive care paramedics may provide advanced airway and cardiac interventions.	✓	✓	✓
2. Avoidance Effective on-site management of low acuity patients avoids the need for transport to hospital or delayed review by a Primary Care provider. Patients with higher acuity short-term clinical issues (eg. drug / alcohol intoxication) can be monitored on-site and discharged upon resolution of the presenting complaint.	✓	✓	✓
3. Dilution (spatial) On-site treatment of presenting complaints allows transport by non-ambulance means to facilities other than the closest hospital (eg. temporary splinting of fractures transported to hospital near patient's residence by family).	✗	✗	✓
4. Dilution (temporal) On-site treatment of presenting complaints allows deferred medical review and avoids the need for urgent and/or same day ambulance transport and hospital treatment (eg. definitive wound closure requiring review for removal of sutures).	✗	✗	✓
5. Decrease acuity Where hospital attendance cannot be safely and reasonably avoided, the clinical condition of the patient can be improved / supported to reduce the urgency of transport (eg. fracture/dislocation reduction to restore blood supply to the limb, reduce pain and avoid nerve damage).	✗	✗	✓
6. Health Protection Referral of patients to their local health provider decreases the impact on nearby health services and improves continuity of care and follow-up, reducing duplication of health costs and services.	✓	✓	✓
7. Public Health Monitoring & Promotion St John Ambulance operational procedures include regular trend monitoring of patient presentations. The on-site presence of senior health professionals with both hospital and pre-hospital experience enables health surveillance and rapid public health interventions as required.	✓	✓	✓
8. Education & Professional Mentoring St John Ambulance provides a unique opportunity for many health professionals and students to work closely together. The resulting cross-professional teaching and mentoring is of great benefit to students, junior & senior professionals	✓	✓	✓

7 Health Professional Operational Guidelines

The development of these operational guidelines was a core objective of this project. St John health professionals are credentialed to practice within a standard National Scope of Practice, including a national standard set of Clinical Practice Guidelines (CPGs). These CPGs are closely related to ambulance practice in all Australian states and territories and apply equally to St John nurses, paramedics and medical practitioners.

The out-of-hospital environment is traditionally the clinical domain of ambulance paramedics and specialist medical retrieval teams. There is scope in the Victorian State Health Emergency Response Plan (SHERP) for medical teams to be deployed “pre-hospital” during major emergencies but this rarely happens. The SHERP has also been endorsed as the health planning and management framework for major events in Victoria.

The St John MAT model challenges the traditional injury/illness – ambulance – hospital default and is equally applicable to event and emergency response deployments. These guidelines define St John Vic advanced practice service delivery models and aim to provide greater clarity to the operational interface between medical service provision and ambulance practice in the out-of-hospital environment.

Eight core objectives are defined:

- Advanced Life Support
- Avoidance
- Dilution (spatial)
- Dilution (temporal)
- Decrease Acuity
- Health Protection
- Public Health Monitoring & Promotion
- Education & Professional Mentoring

Not all St John health professional deployments are intended or resourced to achieve each of these 8 objectives. This is represented in the table on the facing page and reflected in the columns to the right that represent individual health professionals (HP), mobile Health Emergency Response Teams (HERTs) and static Medical Assistance Teams (MAT).

Appendices to these guidelines provide greater detail and include:

- Summary of key roles within the Medical Assistance Team
- Suggested staffing matrices and ratios
- Recommendations for equipment deployments
- MAT floor plan to optimise efficiency & patient flow
- Extended & advanced practice patient care principles
- Treatment principles for higher acuity patients

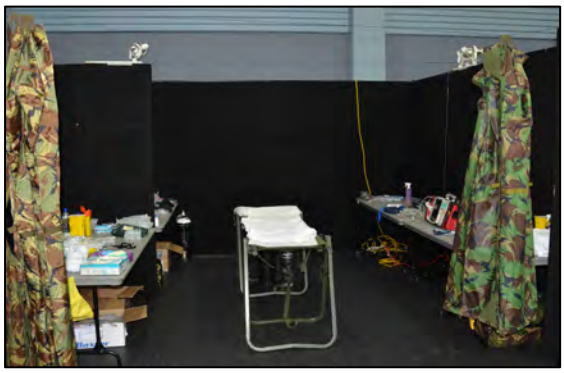
The strategic intent of these guidelines, with examples from event visits, is discussed in more detail on the following pages.

Advanced Life Support

Drug overdose resuscitation, Music Festival (Vic)

Resuscitation beds (4), Ironman Melbourne

Resuscitation room, Pyramid Rock (Vic)



Resuscitation cubicle, Ironman NZ

Project Examples of ALS interventions:

- Cardiac Arrest Resuscitation, incl advanced airway management & cardioversion
  - Melbourne Marathon (at finish line)
  - City 2 Surf (on-course)
- Treatment of drug & alcohol-related intoxication & coma
  - Sedation, monitoring and occasional intubation of patients at Music Festivals
- Assessment of chest pain
  - ECG to identify acute myocardial infarction (heart attack)
    - Fast-tracking of patients to appropriate coronary care facility
  - Treatment of non-cardiac chest pain

Examples of other critical conditions that SJ Health Professionals manage at events:

- Assessment, treatment & stabilisation of exercise-associated illnesses:
  - Seizures & coma due to severe fluid & electrolyte imbalance
  - Hyperthermia, heat stroke, exercise induced anaphylaxis
  - Education session for health professionals prior to Ironman Melbourne
- Life & limb saving interventions in trauma
  - Decompression of tension pneumothorax
  - Burns - early tracheal intubation (airway burns), escharotomy (limbs, thorax)
  - Fluid resuscitation of adult and paediatric patients
  - Compound fracture management to minimise infection, blood loss & nerve damage
  - Potential for further advanced assessment if ultrasound machines used pre-hospital

Project Examples of High Clinical Risk Events:

- Running Festivals – City 2 Surf, Melbourne Marathon
- Endurance Events – Ironman NZ, Ironman Melbourne
- Music Festivals
  - Single day: Summadayze, Big Day Out, Future Music Festival
  - Residential: Pyramid Rock, Falls Festival, Meredith Music Festival

7.1 Advanced Life Support (ALS)

AIM: To provide on-site life-saving assessment and management prior to patient transport to hospital by ambulance

Comments:

- All St John Health Professionals are:
  - Credentialed and indemnified to practice within standard National Clinical Practice Guidelines
  - Limited to performing the skills and administering the drugs that the HP uses independently in their normal workplace
  - Provided with emergency drugs and equipment matching their clinical credentialing
- Deployments are staffed according to anticipated clinical risk, with staff skill-mix and experience chosen based on:
  - Expected number of patient presentations
  - Likelihood & type of high acuity patients
  - Availability of local emergency health care resources
- Consideration is always given to proximity to nearest regional or tertiary hospital
  - Treatment decisions made in consultation with ambulance
  - Treatment decisions affected by patient acuity, current workload and capacity for ongoing management of patient(s) while awaiting transport
  - Treating clinicians commit to minimising delay to transport to hospital once management decisions have been made
- There is inevitably overlap with general & intensive care paramedic practice
  - St John uniform marking clearly identify clinical qualifications
  - Wherever possible, senior SJ & ambulance staff will explain qualifications & experience at the beginning of the event / shift
  - Medical intervention may exceed intensive care paramedic scope of practice or be required in the absence of intensive care paramedics
- Receiving hospitals notified of incoming patients by SJ medical staff
  - A medical referral accompanies and / or precedes all patient transports to the receiving hospital, including:
    - Medical transfer letter to receiving hospitals
    - Phone calls to hospital admitting officers

Avoidance

Health compound & SJ SA Event Patient Transport vehicle, Schoolies Festival (Victor Harbour, SA)

Finish Line & NSW Health Field Hospital, City 2 Surf (NSW)

Project examples of safe Ambulance & Emergency Department Avoidance:

- Stated and shared health planning strategic intent at some events:
  - Ironman NZ, City 2 Surf, Melbourne Cup Carnival, Meredith Music Festival
- Notting Hill Carnival
  - Major Treatment Centres established – patients reviewed on-site by SJ or LAS medical practitioner before transport off-site (for non-time critical patients)
  - SJ London attend Emergency 999 calls and transport patients directly to hospital
- Schoolies' Festival
  - SJ authorised to transport patients to hospital. This is a standing arrangement with South Australian Ambulance Service (SAAS) to reduce the number of SAAS transports
  - SAAS transported patients to SJ Treatment Centre from around Victor Harbour, avoiding the local hospital that was already full of event and local patients
- Brisbane CBD (NYE) – SJ treatment centre in the Valley Mall
  - 45 predominantly alcohol-affected patients treated in 6 hours
  - 1 patient transported to hospital – anecdotal reports of hospitals not going on bypass
- City 2 Surf
  - NSW Health medical teams working from 2 temporary field hospitals established to minimise the number of patients transported to hospital.
  - SJ medical emergency response teams on course & 2 medical teams around finish area
- Tough Mudder
  - 16 dislocated shoulders relocated on-site by SJ emergency specialists
  - 22,500 competitors, 450 patients & 3 (all non-urgent) ambulance transports
    - In the US: 6,000 competitors, approx. 400 patients & 40 transports
- General clinical presentations
  - Fluid rehydration & recovery of drug & alcohol-related patients
    - Ambulance Victoria transported 6187 (2009/10), 6946 (2010/11) pts to hospital
      - Figures from Turning Point Alcohol & Drug Centre published in *The Age*
    - SJ Vic MAT treat and discharge > 600 (~ 10% more) of these patient every year
  - Wound assessment, cleaning & closure (glue, sutures, dressings…)
  - Injuries with no need for x-rays – # nose, clavicle, clinically cleared ankle & neck injuries

7.2 Avoidance

AIMS: To plan and implement systems with the strategic intent of:

- **Reducing the number of patients requiring transport to hospital by optimising on-site definitive treatment & discharge and**
- **Reducing the number of patients requiring transport to hospital by ambulance, freeing up ambulance resources for 'normal business'**

Comments:

- Every patient not transported by ambulance and/or seen in an emergency department is a cost and resource saving to the health system!
- Preliminary calculations estimate these savings to be well in excess of $1 million, through avoided ambulance transports, alone over the 200+ events serviced by a St John Medical Assistance Team between 2004 and 2012
- This does not include the savings due to avoided emergency department visits

Hospital Avoidance
- Many patients seen at events can be safely treated on-site, avoiding the need to be seen in an emergency department (ED)
- Alternate discharge destinations include:
  - Returning to the event
  - Discharge home with friends/family by car/taxi/public transport
- Patients may still require delayed medical management (eg. see pt's own GP)

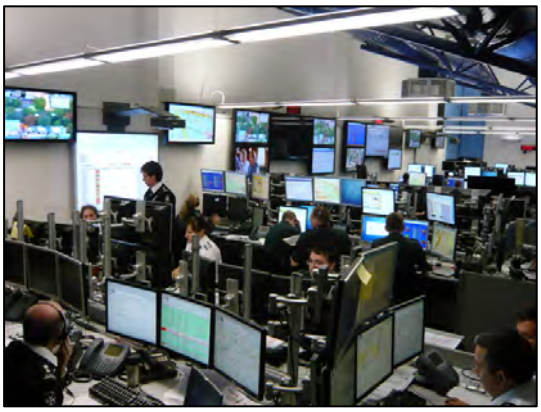
Ambulance Avoidance
- Not all patients that need to go to hospital need to go by emergency ambulance
- Alternatives to emergency ambulance transport include:
  - Non-Emergency Patient Transport (NEPT) providers
  - Private car, taxi, public transport

Cost & Resource Savings
- ~ 90% of 10,000 MAT presentations to-date did not need ambulance transport
- Road ambulance transport costs often exceeds $1,000 / transport
- Air ambulance costs are significantly higher
- Estimating savings due to avoided emergency department visits is more difficult
- This is discussed in more detail in Section 13 – Cost & Saving Estimates

General comments on decisions to transport patients
- The decisions about further care and transport needs are made by senior clinicians with experience working in the out-of-hospital environment
- The final decision on if & when a patient is transported may be based more on politics than objective and optimal utilisation of resources, including:
  - Inconsistent legislative interpretations
  - Relationship between first aid, health and ambulance providers
- Justification for transport decisions is often inconsistent, varying depending on:
  - The approach of the Health and/or Ambulance Commander
  - Event location: within / outside event precinct, metro / rural
  - Timing: clinical acuity, time to conclusion of the event
  - Health and ambulance resources available
- Patient transport regulation in Victoria is unclear, complicated and buried in interpretations of VicRoads, NEPT and Ambulance legislation & standards

Spatial Dilution

Cycle leg & medical team facilities, Ironman NZ (Taupo, NZ)



LAS & SJ communications - LAS notifies hospitals of all incoming patients. Hospital workload shared (NHC)

<u>Project examples of Spatial Dilution</u>:

- Tough Mudder
  - 16 shoulder dislocations relocated onsite and referred to local doctor & physiotherapist
  - Wrist & ankle fractures plastered, pain controlled with tablet analgesia & patients driven to hosp by family / friends with a medical referral letter
- Ironman NZ
  - Patients seen by event medical team & transferred to regional referral centre as required, by-passing local health service
- Notting Hill Carnival
  - LAS Allocator spreads patient transports across local hospital network
    - Depending on known hospital ED workload and bed capacity
  - Pre-hospital trauma, cardiac (12 lead ECG) & stroke assessment
    - Patients referred to specialty receiving hospital as required
    - LAS notifies hospitals of each incoming patient by name & condition
- Perth Fireworks
  - Paramedics on boats used to transport patients, avoiding heavy traffic congestion, facilitating quicker transport of patients to hospital and reducing the loss of road ambulance resources to lengthy transport delays
- International Visitors as patients
  - Complicated insurance and follow-up arrangements
  - Common at international events (eg. Formula 1 GP, Ironman NZ & Melb…)
- Victorian Health Incident (Event) Management Team
  - Managed by Health Commander, with First Aid & Ambulance Commanders
  - Established at Melbourne Cup Carnival and Formula 1 Grand Prix
  - Patient transport destinations determined collaboratively
- Events held in areas with limited local ambulance resources, close to a rural hospital with limited bed capacity & acute care resources and / or a prolonged drive from a metropolitan or regional hospital
  - Tough Mudder, Pyramid Rock, Ironman NZ, Schoolies Festival, Meredith Music Festival
  - Patients distributed depending on acuity to local, regional or major referral hospitals

7.3 Dilution (spatial)

AIM: To provide on-site assessment & management that safely enables:
- **Patients to be treated at a facility other than the closest hospital**
- **Referral to a more distant and / or more appropriate facility**
- **Health & ambulance services to keep servicing the local community**

Comments:

- Events in rural and remote areas can easily overwhelm local health services
  - This may adversely affect local communities, for example:
    - Delayed ambulance response times
    - Longer waits / no beds available in local hospital
  - Patient transport to other facilities can help to spread workload
- Patients may be able to treated on-site and referred to another facility / specialists for further treatment:
  - Local hospital, GP, physiotherapist, GP clinic nurse…
  - Patients may be given prescription for discharge / ongoing medications
  - Particularly useful for overseas and interstate visitors to events
- Patients can be transferred directly to a specialty treatment centre after on-site assessment by a doctor, reducing delays inherent in secondary transfers
  - Receiving hospital ED triage / admitting officer notified of patient's arrival in advance by phone
  - Patients accompanied by medical referral letter

Clinical examples of Spatial Dilution:

- Patients transported to specialist treatment centres
  - Heart Attacks transported directly to Cardiac Specialist Centres
  - Trauma transported directly to Major or Regional Trauma Centre
  - Burns transported to specialist Burns Centre
  - Children & infants referred to appropriate paediatric hospitals
  - Head injuries transported direct to a neurosurgical centre
  - Patients with isolated hand or complex facial injuries transported to a hospital with plastic surgery
- The destination hospital is routinely determined by the ambulance service
  - The higher acuity patients are often transported to larger hospitals
    - This might involve use of helicopter or fixed-wing aircraft but may also be avoidable - smaller, closer hospitals may agree to take these patients based on discussions with on-site medical staff.
  - The lower acuity patients listed above are often taken straight to the closest hospital. This might free ambulance resources but result in further delays if transport to another hospital is subsequently required
  - This decision is best made collaboratively by ambulance & medical staff.
- Follow-up and ongoing management should be considered when choosing destination hospitals
  - Reduces duplication & streamlines follow-up
  - Stable fractures / joint injuries referred to a hospital closer to pt residence
  - Patients discharged with medical referral letter addressed to clinician who will continue patient's management
- Prescriptions at residential events to get filled at on-site / nearby pharmacy
  - Wounds, chest / sinus / urinary tract infections…

Temporal Dilution

Big Day Out Music Festival (Summer, VIC)

SJ MAT Pyramid Rock NYE Music Festival

Health precinct, Melbourne Cup Carnival
First Aid – Medical Assistance Team – Welfare Shelter

Project examples of Temporal Dilution:

- Pyramid Rock Music Festival (3 day, residential)
  - 12 bed capacity for extended patient care given limited ambulance resources on Phillip Island and 90+ min road transport distances to Melb (3 hr minimum return trip)
  - Definitive care (cleaning and closure) of open wounds then GP review for suture removal
- Meredith Music Festival (3 day, residential)
  - Non-urgent patients monitored on-site and transferred out to regional hospital at ambulance shift changeover (using existing vehicles)
  - Closest "normal business" ambulance 45 minutes drive away
- Falls Festival (3 day, residential)
  - 10 bed field hospital, integrated with ambulance to coordinate transports
- Large Single-Day Music Festivals (eg. Big Day Out, Future Music Festival)
  - Large numbers of drug and alcohol affected patients monitored in MAT
  - Patients given the opportunity to improve and possibly:
    - Discharged to event or home with friends / family
    - Transported to hospital if ongoing care required (normally > 1 hr)
  - Increase number of patients transported at end of event due to end of shift times
    - Opportunity to staff MAT & ambulance later to avoid these transports, if they would otherwise be monitored and discharged if presenting earlier in the event
- City 2 Surf
  - Collaborative deployment – NSW Health, ASNSW & St John NSW
  - Strategic intent to allow planned & gradual transport of patients off-site as required & ASNSW resources available
    - 2 x NSW Health Service field hospitals, St John Medical Teams
- Melbourne Cup Carnival
  - "Welfare Shelter" established collaboratively with AV & SJ
  - 12 beds with capacity to manage low acuity & higher acuity step-down patients
  - Welfare shelter co-located & integrated with SJ Medical Assistance Team & First Aid Post
- Ironman Melbourne
  - SJ MAT – 22 volunteer HPs, 32 bed extended patient care capacity
  - Competitors are fit, well trained and generally recover quickly

7.4 Dilution (temporal)

AIM: To provide staff & resource capacity to safely enable patients to be:

- **Managed on-site for an extended period awaiting:**
  - **Appropriate transport off-site**
  - **Stabilisation / recovery from their presenting clinical complaint**
- **Referred to another doctor / health professional at a later date**

Comments:

- High ambulance and hospital demand for "normal business" cases often coincides with busy clinical workload at major events:
  - eg. music festivals held on hot days
  - eg. coincidental heat waves during major event seasons
  - eg. events held in rural areas during peak holiday season
- Temporal dilution may involve delaying the need for either or both of:
  - Off-site transport to hospital or home
  - Review by another health professional (eg. GP or physiotherapist)
- On-site extended patient management capacity:
  - Enables planning of ambulance transports with reduced urgency
  - Provides "buffering capacity" for ambulance transport demand
- It is routine emergency medicine practice to:
  - Stabilise short duration and/or minor medical conditions in ED, then
  - Refer to another health professional for review and further management
- There is an inherent link between *Temporal Dilution* & *Decreasing Acuity*

Clinical examples of Temporal Dilution:

- Wound management
  - Sutured wounds referred to local doctors for delayed wound review 1 week later +/- removal of sutures
  - Delayed review of minor burns by GP / practice nurse
- Extended patient monitoring & care for drug and alcohol affected patients at large music & residential festivals
  - This includes bed, staff & appropriate monitoring capacity
  - Patients presenting at the end of the event are often transported due to time pressures and not solely on clinical grounds
- Optimising care while waiting on ambulance transport
  - Treatment of pain and nausea
  - Prophylactic treatment to increase comfort for patients being transported with spinal precautions
- Limb & joint injuries
  - Clinical clearance of ankle fractures with referral for GP/physio review
  - Pain relief, stabilisation and referral for delayed review for fractures that do not require operative management or urgent x-ray:
    - Nose, clavicle, ribs, uncomplicated & undisplaced arm/leg
  - Reduction of fractures & joint dislocations with referral for delayed x-ray and physio review
- Recovery after sedation for agitation or performing painful procedures
  - Safer and lower acuity patient transports by ambulance

Decrease Acuity

Ankle fracture dislocation
Patient sedated & fracture reduced in MAT
Fracture stabilised & patient transported to hospital

High acuity monitored beds
Cardiac monitoring & fluid replacement
Ironman Melbourne

Summadayze Music Festival, New Years Day
Large number of heat & alcohol affected patients

Tough Mudder wall climbs
Multiple shoulder dislocations reduced onsite

<u>Project examples of Reducing Acuity</u>:

- Music Festivals
  - Monitoring +/- sedation of drug and alcohol affected patients
    - These drugs often have short periods of profound intoxication with a predictable profile and good, prompt recovery
  - Intravenous fluid replacement in dehydration +/- drugs & alcohol
  - Many of these patients will not require off-site ambulance transport
  - Patients treated in a SJ MAT are more likely to transport for drug-induced agitation than reduced conscious state (*Dutch et al, 2012*)
- Tough Mudder
  - 16 dislocated shoulders reduced over 2 days (no ambulance transports)
  - Fractures reduced, immobilised & transported in private vehicles for x-ray
- Running Festivals (eg. City 2 Surf, Melbourne Marathon)
  - Monitoring and supportive care as patients recover
  - Intravenous fluid rehydration & anti-nausea treatment for over-exertion
  - Most of these patients will recover quickly to a point where hospital is not required
- Ironman Melbourne & NZ
  - Patients assessed for signs of severe electrolyte abnormalities
  - Emergency stabilisation treatment is administered as required
  - These patients may still require further management in hospital
- Notting Hill Carnival
  - Chest pain and potential stroke patients assessed on-scene by paramedic or doctor
  - 12 lead ECGs done on chest pain patients to check for signs of myocardial ischaemia
  - Patients transported to appropriate cardiac or stroke hospitals if appropriate

7.5 Decrease Acuity

AIM: To reduce patient acuity and optimise patient care with a view to safely:

- **Reducing the urgency of need for transport to hospital**
- **Reducing the level of clinical care required during transport**
- **Improving patient stability and comfort prior to transport**

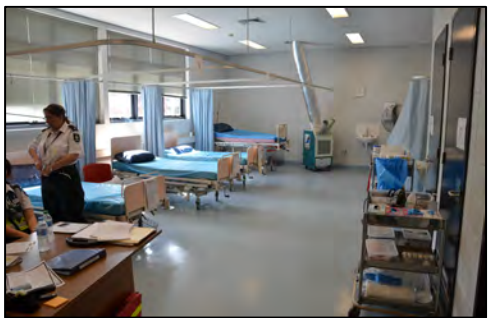
Comments:

- Reducing patient acuity reduces and may remove the need for further medical treatment and/or transport to hospital
  - This may defer or totally remove the need for ambulance transport
- Many acute medical and trauma presentations can be safely stabilised and care optimised prior to transport
  - This improves the patient transport experience and may improve safety for staff and patients alike
  - Assessment & treatment of these conditions is often beyond basic and sometimes advanced paramedic scope of practice

Clinical examples of Decreasing Acuity:

- Securing the airway (eg. through tracheal intubation) of patients with profoundly reduced consciousness, facial trauma or airway burns
  - These patients still require high priority ambulance transport to hospital but they are safer with a protected airway
  - The decision to intervene depends on proximity to appropriate hospitals, clinical time criticality, available staff & resources
- Sedation of agitated, drug affected and/or seizing patients
  - These patients may recover fully and not require hospital treatment
- Reducing displaced fractures (eg. ankle fracture dislocations, mid-shaft humerus)
  - Emergency reduction reduces pain and may prevent permanent nerve and/or limb damage (by restoring blood flow to a compromised limb)
  - Reduction & immobilisation (eg. plaster splint) increases transport comfort
- Reducing joint dislocations (eg. shoulders, patella, fingers)
  - Joints are easiest to relocate as soon after dislocation as possible
  - Joint reduction reduces or removes pain
  - Patients may still require an x-ray to confirm complete joint enlocation
  - An ambulance may not be required after joint relocation
- Optimising pain relief. For example:
  - Paediatric analgesia beyond ambulance clinical practice restrictions
  - Peripheral nerve block (eg. femoral nerve block for fractured femur)
- Optimising spinal immobilisation of patients with neck and back injuries
  - Administration of strong anti-nausea medications before transport
- Optimising care of complex injuries & illnesses
  - Aggressive cooling of hyperthermic patients in heat stroke
  - Administration of intravenous antibiotics in setting of open fractures
  - Hypertonic fluids in seizures due to exercise associated hyponatraemia
- Some interventions may involve procedural sedation
  - This is done by appropriately trained & experience staff and is only done when adequate support staff and equipment is available

Health Protection



St John Advanced Clinical Management Centre
2 week continuous medical team deployment
Royal Easter Show, NSW

St John Medical Assistance Team
High & low acuity + procedural beds
Tough Mudder, VIC

32 bed St John Medical Assistance Team, Ironman Melbourne

Project examples of Health Protection:

- St John providing alternative to ambulance service transporting patients off-site
  - SJ SA agreement with South Australian Ambulance Service (SAAS)
  - SJ London & London Ambulance Service (LAS) share patient transport
  - Use of appropriate St John vehicles & staff as resource multipliers
- Ambulance "normal business" cases transported into St John treatment centres
  - SAAS transported from beyond event area into SJ treatment centre (Schoolies' Festival)
    - Particularly significant given local hospital gets inundated during this week
  - Any pt inside Notting Hill Carnival footprint may be transported to a SJ Treatment Centre
  - Minimises the number of event & non-event pts transported to hospital
- Notting Hill Carnival
  - Event precinct isolated from "normal business" operations
    - 999 emergency ambulance requests diverted for event footprint
    - External resources may only enter event precinct with permission of LAS Silver
  - LAS distributes patients to receiving hospitals to share the workload
    - LAS Bronze mobile commander attends hospitals to facilitate patient transfers
  - Active hospital engagement – awareness, teleconference & planned increased capacity
- Ironman NZ & Melbourne
  - Large field hospitals established to filter and reduce the number of patients requiring off-site treatment in Hospital (note: Taupo (NZ) is a small rural hospital with limited services)
- City 2 Surf – NSW Health strategic planning & deployment of field medical teams
- Brisbane CBD – SJ staffing of Queensland Health plan to definitively treat pts out of hospital
- Victorian Major Events – Ambulance & Health Command
  - Emergency '000' calls from events directed to on-site Health Commander
  - Use of event-resources within event. Planned offsite transport by appropriate crews
- Prolonged events also provide onsite lower acuity services (planned & incidental)
  - Eg: Royal Easter Show (14 days), F1 GP & Melb Cup Carnival (4 days)

7.6 Health Protection

AIM: To mitigate the impact of the event on local health services:
- **Reduce the operational and financial impact on the health system**
- **Optimise availability of hospital & ambulance resources for use by local community**

Comments:

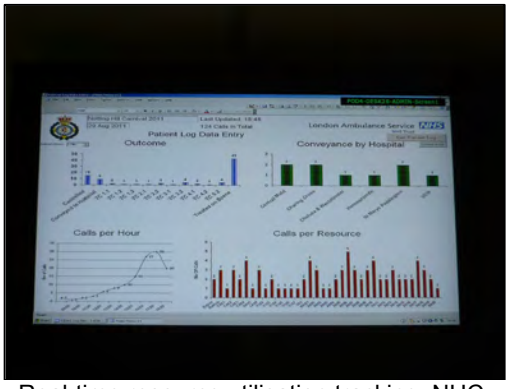
- Health Protection is achieved through each of the preceding 5 strategies

- Operational savings involve modifying resource allocation and include:
  - Reduced use of "normal business" ambulance resources required to transport patients off-site to hospital
    - Event ambulances transport time-critical patients off-site
    - In Vic (and some other jurisdictions) an external (non-event) ambulances will be called into the event to transport patients out
  - Reduced number of emergency department presentations
  - Dedicated non-emergency ambulances at events can be used to transport appropriate patients to hospital, sparing use of emergency ambulance crews
- Cost savings to the health system can be achieved by:
  - Reducing duplication by referring patients for delayed review and/or treatment by their local doctor / hospital, in preference to starting treatment at a hospital distant from the patient's local residence
    - eg. avoid duplicate x-rays / other tests
  - Avoids tax-payer funded ambulances being diverted from "normal business" to provide off-site patient transport from events
- Local ambulance & health resources available for local community needs
  - Events in rural areas often have limited local health resources
    - Ambulance resources are based on normal community need
    - Mass gatherings may significantly increase ambulance demand
    - Rural ambulance staffing may involve on-call or volunteer staff, or drawing additional crews in from surrounding areas
    - Event-related ambulance usage may significantly prolong response times to community emergencies
  - Event organisers often pay for event-based ambulances to:
    - Offset the effect of the event on local ambulance utilisation
    - Provide clinical services within the event

    … but there is no Victorian law to enforce this.
- St John health services are funded by event organisers
  - Event organisers directly contribute to event health costs
  - Reduces tax-payer subsidy of event health service provision
  - Government financial support of St John health services varies in each jurisdiction
    - St John Vic does not receive regular financial support for Medical Assistance Team equipment or deployments
    - Some equipment has been purchased with the assistance of government-supported grants

Health Promotion & Monitoring

Free sunscreen, Foreshore Festival



Real-time resource utilisation tracking, NHC


Monitoring live CCTV, NHC


Heat Health media before Perth Skyworks

<u>Project examples of Health Promotion & Monitoring</u>:

- Legislated & enforceable event health planning requirements (UK)
  - Enforceable Mass Gathering Event Planning standards
  - Guide to Safety at Sports Grounds
    - Stemming from 1989 Hillsborough Football Disaster
- Best Practice guidelines for health planning at events
  - Vic DHS Code of Practice for Running Safer Dance Parties
  - WA Guidelines for Concerts, Events & Organised Gatherings
  - Emergency Management Australia – Safe & Healthy Mass Gatherings
- Use of media for health promotion prior to events
  - Notting Hill Carnival, City 2 Surf
  - Australia Day Fireworks (Perth) – week long heat wave (38 degrees plus)
  - Heat Health advisories before Summer Music Festivals
  - Social media monitoring at NHC
- Use of event website to publish health information before the event
  - Ironman Melbourne & NZ
  - Meredith Music Festival, Foreshore Festival
  - Running Festivals (City 2 Surf, Melbourne Marathon)
  - All large single day music festivals (Big Day Out, Future Music Festival)
- Trend monitoring during the event
  - Notting Hill Carnival – scheduled bronze & silver teleconference meetings
  - Notting Hill Carnival real-time tracking of Response Team caseload
  - All St John Vic major events
    - 2 hourly updates from all first aid posts and response team
    - Information collated & kept centrally by communications staff
  - Vic Major Event Health Incident Management Team (HIMT) meetings
- St John nurse conducting medication registration during bag checks (Foreshore Festival)
- Strategic partnerships
  - St John Vic has done some preliminary work with Cancer Council Victoria to spread and reinforce SunSmart messaging at major events
  - Cancer Council on-site (Foreshore Festival)
  - Drug & alcohol services on-site (Schoolies, Save-A-Mate, Dancewize)

7.7 Health Promotion & Monitoring

AIM: To promote the importance of health considerations during planning and event day operations

Comments:

- Best practice event planning guidelines are available in most jurisdictions
  - Many of these have few or superficial health considerations
  - Most are not legislated or enforceable
- There are no detailed event health planning requirements in Victoria, beyond those required to get municipal planning / event permits
  - Municipal council permits often only require “first aid” to be on-site
  - Specific event types are addressed in some guidelines (eg. dance parties)
    - First aid, ambulance & medical team recommendations are made
  - The State Health Emergency Response Plan (SHERP) is used as the Victorian major event health planning framework
- There are few enforceable event health planning standards in Victoria
  - Public health is most commonly addressed (toilets, drinking water)
  - Acute health care needs, beyond the need for “first aid” is up to the discretion of the event organiser and the size of their budget
  - Event organisers are not required to have ambulance or a medical team onsite
    - Event organisers that refuse to pay for dedicated event ambulance resources inherently rely on the use of “normal business” community ambulance resources
    - In the absence of a onsite medical team, cases that could be managed onsite require transport to hospital, further increasing ambulance demand
  - Ambulance and first aid provider(s) negotiate health resources
    - Health department engagement in this process is uncommon
- Pre-event media statements are commonly used
  - Common message, often delivered by Ambulance and/or St John
  - Media interest greatest on higher risk day (eg. hot weather)
  - Aim to minimise patient presentations by influencing patron behaviour
- Monitoring patient presentation numbers & trends is critical
  - Regular scheduled updates & exceptional reports are essential
  - Number and type of patient presentations (eg. heat, injuries, gastro…)
  - Enables rapid intervention to prevent further injury / mitigate impact
- St John members on-site are trained & conscious of health
  - Safety aware staff report health risks encountered during the event
  - Health promotion during clinical encounters (drug & alcohol, SunSmart)
- Involvement of other health promotion agencies:
  - SunSmart, DanceWize, Save-A-Mate…

Education & Professional Mentoring

Briefing SJ Medical Assistance Team (Finish Line, St Kilda), Ironman Melbourne
22 St John volunteer health professionals – doctors, nurses & paramedics
50 staff in total, including first aiders, logistics and administration support staff
Emergency Department structure employed – senior doctor & nurse in charge, section team leaders

Project examples of Education & Professional Mentoring:

- Mass gatherings as emergency exercises
  - City 2 Surf – NSW Health annual Health Displan exercise
  - Ironman NZ – Territorial Forces Medical Team annual exercise
    - Endurance medical conditions relevant to military pt presentations
- Victorian use of mass gatherings to test emergency health plans & resources
  - Melbourne Cup Carnival
    - Health Incident Management Team
    - Ambulance Western Shelters erected for St John medical team
      - These tents are deployed as temporary field medical centres
  - Formula 1 Grand Prix
    - Health Incident Management Team established
  - All major events
    - State Health Emergency Response Plan framework
    - Emergency Support Vehicles provide additional supplies
      - Eg. Tough Mudder, Pyramid Rock Music Festival
- Ironman Melbourne
  - Education session run in the week before the event for all health professionals
    - Focus on medical conditions encountered in endurance events
  - Information sheet provided to all first aiders
  - First aid language translations to assist with treatment of oversees competitors
- St John Vic MAT deployments
  - Student health professionals rostered supernumerary and fully supervised at all times
  - Students & junior health professionals taught equally by doctors, nurses & paramedics
    - Unique opportunities to develop personal & professional support networks

7.8 Education & Professional Mentoring

AIM: To optimise educational opportunities during operational deployments

Comments:

- Mass gatherings provide great experience & training opportunities for:
  - Commander training
  - Clinical skill development
  - Exercising policies, procedures & equipment
  - Emergency preparedness & response
- Mass gatherings are effective training exercises for state Health Displan training
  - Large patient numbers
  - Strategic deployments to reduce health service impact
  - Test equipment & increase staff familiarity with equipment
  - Most doctors & nurses are not experienced working out of hospitals
    - Medical teams deployed during emergencies have limited prior opportunities to work in the pre-hospital environment
- Development of Professional Networks
  - Within St John medical team
  - With senior ambulance managers
- Educating event organisers
  - Reinforce strategic intent & justify service delivery model / charges

- St John Vic actively encourages training during medical team deployments
  - Cross-professional training and mentoring
    - Optimise opportunities for cross-discipline knowledge sharing
  - Doctors, nurses & paramedics training all disciplines of students
    - Benefits to students of different perspectives simultaneously
  - Health-professional induction sessions run regularly for new members
    - Familiarisation to SJ equipment & pre-hospital environment
    - Induction of junior health professionals into clinical roles
- Supported training opportunities for health professionals students
  - Students are given opportunities to assess and manage their own patients under the supervision of experienced clinicians
  - Students are trained by health professionals from different disciplines, increasing awareness and understanding of other professions
  - For example:
    - Nurses teach medical students how to give the medications they will prescribe as doctors
    - Paramedic students are shown what happens to their patients in hospital and are taught about safe discharge criteria
    - Doctors teach nursing students about airway management, wound closure, medications and advanced patient assessment
    - Medical and nursing students learn about pre-hospital practice
- St John Commander Training program
  - Structured training program, involving internal courses and supervised experiential learning at a wide range of events & support roles

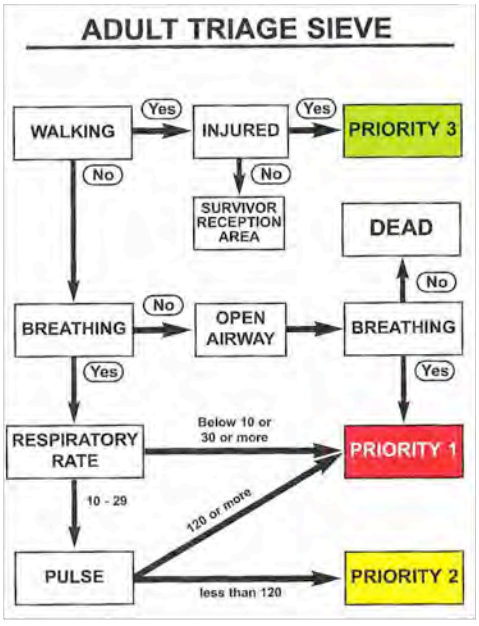
Triage Systems

Table 4.1: Summary of adult physiological predictors for the ATS

	Category 1 Immediate	Category 2 10 minutes	Category 3 30 minutes	Category 4 60 minutes	Category 5 120 minutes
Airway	Obstructed/ partially obstructed	Patent	Patent	Patent	Patent
Breathing	Severe respiratory distress/absent respiration/ hypoventilation	Moderate respiratory distress	Mild respiratory distress	No respiratory distress	No respiratory distress
Circulation	Severe haemodynamic compromise/ absent circulation Uncontrolled haemorrhage	Moderate haemodynamic compromise	Mild haemodynamic compromise	No haemodynamic compromise	No haemodynamic compromise
Disability	GCS <9	GCS 9–12	GCS >12	Normal GCS	Normal GCS

Risk factors for serious illness/injury – age, high risk history, high risk mechanism of injury, cardiac risk factors, effects of drugs or alcohol, rash and alterations in body temperature – should be considered in the light of history of events and physiological data. Multiple risk factors = increased risk of serious injury/illness. Presence of one or more risk factors may result in allocation to a triage category of higher acuity.

Australasian Triage Scale (ATS)
Used extensively in emergency departments



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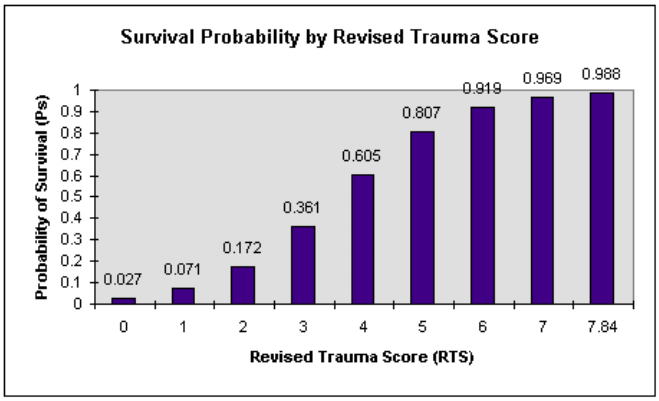
SMART Triage System

- used for Multiple Casualty Incidents in the pre-hospital environment
- 2 stage process
  - initial basic SIEVE
  - subsequent SORT
- endorsed by the Council of Ambulance Authorities as the Australian & NZ standard

Glasgow Coma Scale (GCS)	Systolic Blood Pressure (SBP)	Respiratory Rate (RR)	Coded Value
13-15	>89	10-29	**4**
9-12	76-89	>29	**3**
6-8	50-75	6-9	**2**
4-5	1-49	1-5	**1**
3	0	0	**0**

RTS = 0.9368 GCS + 0.7326 SBP + 0.2908 RR

Calculating a Revised Trauma Score (RTS)
(from Trauma.org)



RTS correlates well with survival probability in MCI
(from Trauma.org)

Champion HR et al, "A Revision of the Trauma Score", J Trauma 29:623-629,1989 Champion HR et al, "Trauma Score", Crit Care Med 9:672-676,1981

8 Triage & Patient Flow

Triage is essential for effective and efficient patient management at mass gatherings. Triage quickly assesses patient acuity and determines the order that patients receive care. Commonly used triage systems are designed for either mass casualty situations (eg. SMART™ Triage) or use in hospital emergency departments (Australasian Triage Scale, ATS).

Multiple casualty triage provides a screening tool that involves the use of objective clinical criteria to provide a rapid & reproducible initial (SIEVE) and subsequent (SORT) assessment. The latter uses respiratory (rate), circulatory (blood pressure) and mental status (Glasgow Coma Scale, GCS) to calculate the revised trauma score (RTS), with good correlation to probability of survival. In contrast, the ATS classification is reliant on experienced emergency staff making an assessment based on a combination of clinical criteria and clinician experience. The ATS is also linked to recommended emergency department waiting time KPIs. Neither system is ideally suited to planned pre-hospital medical team deployments.

Patient flow, and therefore triage, begins with notification of an incoming patient. This may be a patient presenting without notice or being retrieved by St John or ambulance crews from within the event. Structured health command and integration of all health resources is critical for effective and efficient patient flow when multiple agencies are involved. This ensures optimal reduction of event impact through acuity reduction & dilution strategies.

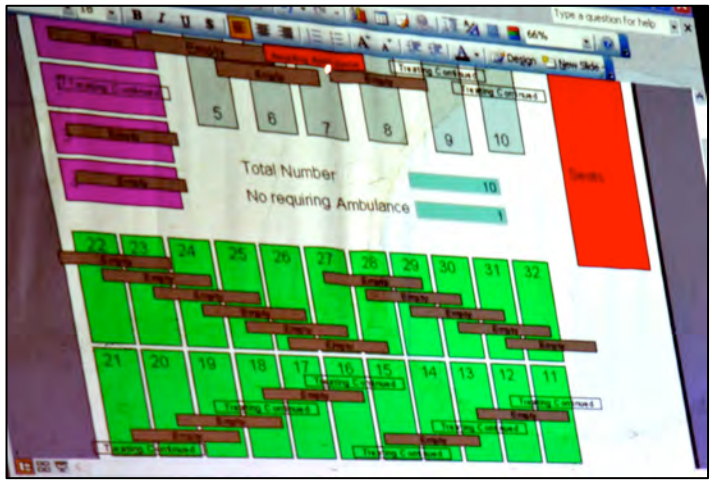
Patient flow decisions often expose the complexities of first aid, ambulance and medical providers operating together in the out-of-hospital environment. The St John MAT functions best and has greatest effect reducing event impact on local health resources when all patients are reviewed before being transported offsite. This is analogous with the MAT undertaking the role of the Casualty Clearing Post, as defined in the Victorian State Health Emergency Response Plan (SHERP), through which all patients transition before leaving the site of a multiple casualty incident. In Victoria, a SJ MAT is not recognised as a hospital-equivalent by Ambulance Victoria and patients may by-pass the MAT at the direction of an Ambulance or Health Commander. This contrasts greatly with the endorsed and central role of medical teams at Ironman NZ and City 2 Surf.

The Triage role is central to the function of the St John Medical Assistance Team. This position receives all patients presenting or transported to the MAT and then allocates the patient to a high, intermediate of low acuity treatment area for further assessment and management. The number and seniority of people undertaking the triage role is determined by the size and complexity of the MAT deployment, including consideration to the number of agencies involved. Different agencies commonly use different paperwork and equipment so familiarity and indemnity may become practical hurdles at times.

Ironman Melbourne provided an excellent example of the importance of structured triage and closely monitored patient flow. The St John MAT for this event comprised 32 beds, with dedicated resuscitation (4), high acuity (6) and low acuity (22) beds and over 20 chairs for first aid and minor presentations. During the busiest periods, the triage system at Ironman Melbourne defaulted, successfully, to a SIEVE / SORT process with an initial SIEVE assessment made at the entrance and subsequent SORT-like assessment made at the bedside. Patient flow was overseen by a St John volunteer emergency physician and senior emergency nurse team, mirroring the admitting officer / nurse-in-charge structure in an emergency department. These two members also managed the interaction with the onsite ambulance commander and paramedics.

Triage Resources

SMART Triage Pac™
Triage cards & instructions
Lightweight carry bag



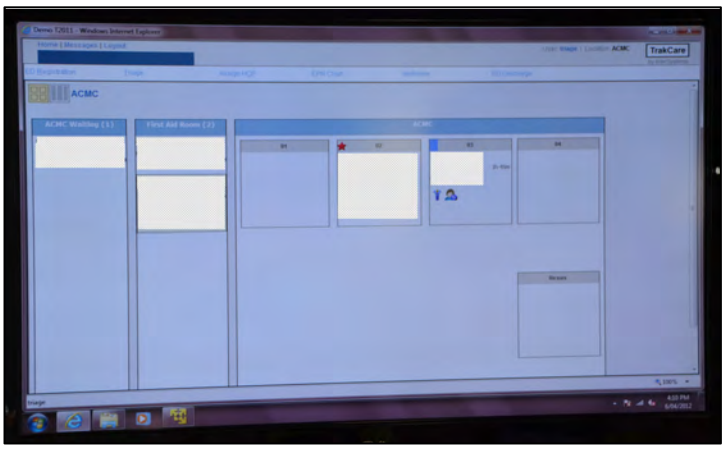
Ironman Melbourne Patient Screen
Projected for easy monitoring of empty beds & patient transport status (ie. awaiting ambulance)

SMART MCI Bag™
Additional cards & tracking sheet
For Mass Casualty Incidents

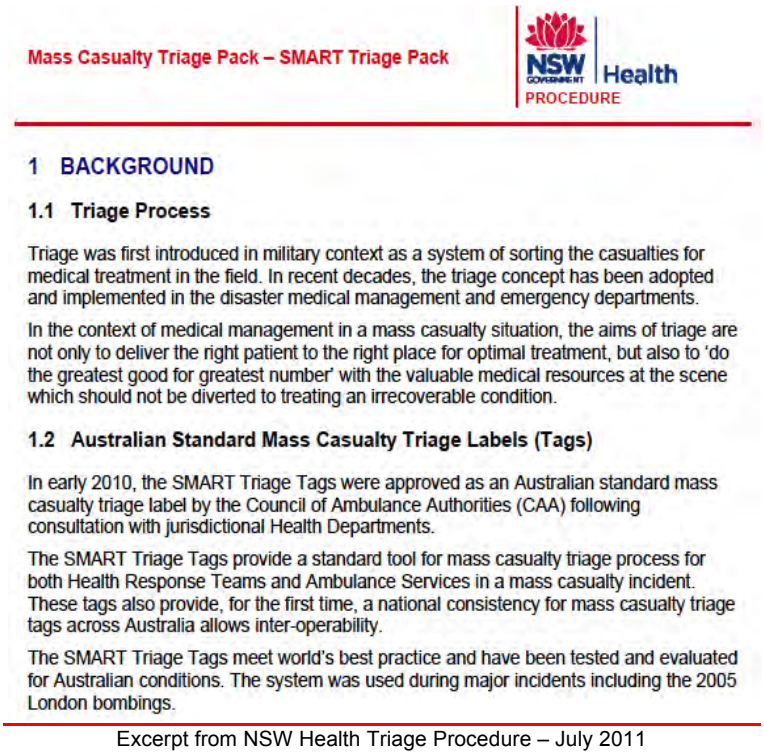
St John Triage Nurse
Pyramid Rock Music Festival

SMART Commander™
Command Control Board
With carry pack

SMART™ Hospital Boards
Ongoing patient tracking



Patient Management System
Royal Easter Show 2012 (SJ NSW)



Mass Casualty Triage Pack – SMART Triage Pack

NSW Health
PROCEDURE

1 BACKGROUND

1.1 Triage Process

Triage was first introduced in military context as a system of sorting the casualties for medical treatment in the field. In recent decades, the triage concept has been adopted and implemented in the disaster medical management and emergency departments.

In the context of medical management in a mass casualty situation, the aims of triage are not only to deliver the right patient to the right place for optimal treatment, but also to 'do the greatest good for greatest number' with the valuable medical resources at the scene which should not be diverted to treating an irrecoverable condition.

1.2 Australian Standard Mass Casualty Triage Labels (Tags)

In early 2010, the SMART Triage Tags were approved as an Australian standard mass casualty triage label by the Council of Ambulance Authorities (CAA) following consultation with jurisdictional Health Departments.

The SMART Triage Tags provide a standard tool for mass casualty triage process for both Health Response Teams and Ambulance Services in a mass casualty incident. These tags also provide, for the first time, a national consistency for mass casualty triage tags across Australia allows inter-operability.

The SMART Triage Tags meet world's best practice and have been tested and evaluated for Australian conditions. The system was used during major incidents including the 2005 London bombings.

Excerpt from NSW Health Triage Procedure – July 2011

<u>Triage & Patient Flow systems encountered during this study tour</u>:

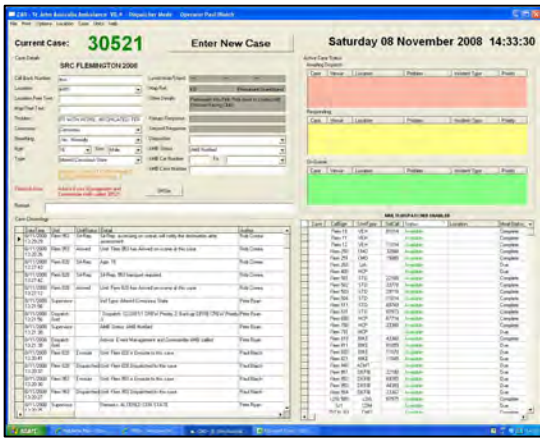
- St John Vic Medical Assistance Team
  - MAT notified of incoming patients using SJ event radio network
  - Dedicated Triage position (normally senior SJ nurse or paramedic)
  - Patients registered on arrival
  - ATS triage used, with baselines observations taken on arrival
- Ambulance Triage Paramedics
  - City 2 Surf – ASNSW paramedic screens patients at finish line, directing them to either St John first aid or NSW Heath Medical Team
  - A senior Ambulance Victoria paramedic dedicated to each St John Vic MAT deployment to provide clinical assessment & then prioritise and facilitate off-site patient transport in consultation with St John health professionals
- Medical triage (by doctors) contributes to spatial and temporal dilution
  - All St John Vic MAT deployments, NHC (LAS doctor mobile around event)
  - Advanced clinical assessment focused on appropriate treatment, locations and appropriate discharge planning
- Specific Event Examples
  - Ironman Melbourne – large number of patients arrived close together, requiring SIEVE / SORT triage at entrance to MAT. Patients were triaged to a low, intermediate or high acuity area. More detailed assessment then made at the bedside
  - Large single day music festivals (Big Day Out, Future Music Festival) – large number of high acuity patients is common. Frequent inundation with lower acuity patients with heat-related conditions and minor trauma. Early determination of first aid or medical treatment requirements are essential to manage workload
- Patient registration systems
  - Royal Easter Show – commercial patient management system trial by SJ NSW
  - Ironman Melbourne – real-time patient allocation board displayed through data projector, colour coded to note patients requiring ambulance transport. Very useful for managing high volume of patients and working with ambulance staff on-site.
  - Falls Festival – SJ database at entrance. Patient details printed onto treatment record
  - City 2 Surf – all patients checked against competitor list on arrival
  - Ironman Melbourne & Melbourne Marathon – access to event organiser record of patients' pre-existing medical conditions as required

Health Response

Medical Response Team (combined LAS & SJ)
Notting Hill Carnival (UK)

Cycle Response Units (LAS & SJ pairs)
Notting Hill Carnival (UK)

Water rescue craft, Ironman NZ (Taupo)



St John Computer Aided Dispatch System

Life Saving Victoria patrolling Water Obstacle
Tough Mudder (Vic)

St John Bicycle Emergency Response Teams, Ironman Melbourne

9 Health Response

An integrated health response is central to the core theme of this project: Health Promotion, Provision and Protection. Successful integration is dependent on organisations sharing:

- Mutual trust & professional respect
- Strategic objectives
- Constructive, solution-focused planning

Failure to integrate all health components results in unnecessary duplication, systemic inefficiencies and sub-optimal resource utilisation. This may result from a cultural default to transport all patients to hospital and may be compounded by a lack of strategic intent to reduce the impact of the event on local health resources. Integration and optimal utilisation of health resources was generally done better in rural areas where absolute resource limitations are a daily reality. This was reinforced at all of the events attended for this study and is a common theme in St John Vic deployments.

Strategies to optimise resource utilisation:

- Objective staff allocation on response teams, based on skill-mix required
  - Complimentary use of first aid, ambulance and SJ health professionals
  - Objective recognition of clinical competence irrespective of agency / uniform
  - Use of first aiders & student health professional as resource multipliers
- Collaborative approach to resource dispatch from emergency calls, including:
  - Sharing call-taking & dispatch information
  - Dispatching resources based on team skills & not agency
  - Actively avoiding unnecessary dispatching duplicate resources
- Preferential use of on-site event medical teams in preference to off-site ambulance transport to hospital, within clinical scope and capacity of on-site services

Project examples of an integrated Health Response:

- Notting Hill Carnival – Communications
  - All ‘Emergency 999’ calls for the Notting Hill area (mobile phone & landline) routed to the LAS communications room
  - LAS & SJ supervisors have access to both LAS & SJ Dispatch systems
  - Closest resources dispatched to all cases
  - SJ crew may be responded to ‘normal business’ 999 call within event precinct
  - Model necessary due to heavy workload at times
- Notting Hill Carnival – Staffing Mix
  - Bronze Command Teams (SJ & LAS Sector Commanders)
  - Cycle Response Units (SJ & LAS member)
  - Medical Response Teams (2 x LAS & 1 x SJ member)
- Melbourne Cup Carnival
  - Health Incident Management Team – regular meetings & information sharing
    - SJ & AV commanders, with overall Health Commander
  - SJ event buggies staffed by SJ driver & AV paramedic
  - SJ & AV co-dispatched to urgent cases
  - Primary response crew (SJ and/or AV) determined on case acuity
- Schoolies Festival
  - SAAS & SJ crew response to cases based on clinical priority & closest resource
  - Festival patients transported to SJ Treatment Centre by SAAS, in preference to busy local hospital
- Residential Music Festivals - Meredith Music Festival, Falls Festival, Pyramid Rock
- Water Rescue – Ironman NZ, Ironman Melbourne, Skyworks, Tough Mudder

Patient Transport

St John Vic 4WD ambulances (Tough Mudder, VIC)
SJ 4WDs required for access to most parts of the course
Ambulance Victoria have predominantly 2WD ambulances onsite for hospital transports as required

St John and Ambulance Tasmania vehicles (Falls Festival, TAS)
SJ & Ambulance vehicles used interchangeably for event response

SES boats with a paramedics & jetty / handover point (Australia Day Skyworks, Swan River WA)
Boats used for access to patients for primary response & retrieval, avoiding heavy traffic congestion & delays

10 Patient Transport

Patient transport is critical to pre-hospital health service delivery. While many patients can be safely stabilised or definitively managed in a field hospital, some will require additional in-hospital management, sometimes urgently. Patient transport services within and from mass gatherings must therefore be fully integrated into the entire event health plan.

The practicalities and politics of patient transport are addressed individually below:

Transport Crew Staffing

Selecting the optimal skill mix on a transport crew depends on multiple factors, including event workload, transport distances, patient acuity and legal requirements. Preparedness to mix ambulance paramedics and St John volunteers varies between jurisdictions.

Staffing response crews with a combination of ambulance paramedics and St John volunteers is an effective resource multiplying strategy. It works well on event buggies, with paramedics providing clinical care and St John members driving the vehicles that they are familiar with. Use of this strategy with ambulance vehicles tends to be confined to theoretical use in the case of an overwhelming emergency. Teaming SES volunteers and paramedics in boats in WA creates an excellent rapid response and patient extrication resource across the Swan River during mass gatherings. Life Saving Victoria provides both water rescue and first aid and are integrated into the health response for Ironman Melbourne and Tough Mudder.

In Victoria, there is often hesitation to recognise St John volunteer health professionals as event-day equals of their paid counterparts. Hesitation to use qualified paramedics volunteering with St John on event day is a frustrating inconsistency, stemming in part from the absence of formal paramedic registration. For example, two qualified paramedics volunteering in a St John response vehicle at an event will often not be regarded as the equivalent of a paid ambulance crew, resulting in dual dispatch of St John and ambulance resources. The exact opposite scenario is seen during the Notting Hill Carnival in London.

Authority to Transport

Legislation governing authority to transport patients varies in each jurisdiction visited, with interpretations and practicalities differing between metropolitan and rural environments. There are inconsistencies inherent in the distinction between requirements for transport within events, as distinct from transport to hospital, particularly where events are held on registered roads.

Authority to transport may be restricted by legislated requirements but wording in regulations and standards is also often ambiguous and open to selective interpretation. This is further complicated by regulation applying to the non-emergency patient transport (NEPT) sector that is often cited but not written to apply to all event-based patient transport.

There are also inherent inconsistencies in this regulatory framework. Event organisers and taxi drivers with no clinical training frequently transport injured and/or unwell competitors around events (eg. ‘sag wagons’ used during running festivals), on registered roads and to hospital. This will also often occur before first aid or medical assessment and management has begun. In contrast, St John crews with qualified health professionals working in ambulance standard-compliant vehicles are often prohibited from transporting these patients on registered roads, even if the road is formally closed for the event.

Patient Transport

Event transport buggies designed for use in large crowds (St John Vic & NSW)

Compact event transport vehicle (St John WA)

<u>Project examples of alternate Patient Transport strategies</u>:

- Transport of "normal business" patients from within event to on-site medical services
  - Notting Hill Carnival – patients who live in Notting Hill that make a "999" call may be transported to an event patient treatment centre for assessment & management. External resources need LAS Silver permission to enter NHC
  - Schoolies Festival – patients transported by SAAS into St John medical centre from the community when local hospital on by-pass
  - Brisbane CBD (NYE) – QAS transporting patients into SJ treatment centre
- Patients transported from course into event medical facility, in preference to hospital directly
  - Common (default) practice for City 2 Sea, Ironman NZ, Notting Hill Carnival
  - Discouraged during Ironman Melbourne, Melbourne Marathon
  - Event medical teams may exceed normal local health capacity / scope of practice
    - Tough Mudder, Falls Festival, Meredith Music Festival, Pyramid Rock
- St John provision of patient transport services to hospital (formal agreement in place)
  - St John London (Notting Hill Carnival, Emirates Stadium), St John SA
- On-site patient transport
  - SJ 4WD patient transport vehicles - Tough Mudder, Falls & Meredith Music Festivals
  - Buggies designed for patient transport in crowds (SJ Vic, NSW, WA)
  - No buggies used at NHC – long patient lift distances due to crowd density
  - SJ people movers (8 – 12 seat vans) used for staff transport but strategically placed within major event sites for transport of lower acuity patients as required
    - SJ Vic – F1GP, Tough Mudder, Pyramid Rock
- Clinical skills on response crews
  - Combined ambulance & SJ crews on SJ buggies (Melbourne Cup Carnival)
  - SJ paramedic HERT crews at Ironman Melbourne & Melbourne Marathon prohibited from transport patients on registered roads in SJ vehicles that comply with AS/NZS
    - Patient with SJ paramedics for 30 mins on roadside waiting for an AV ambulance crew to transport patient 10 min drive to hospital
- Alternatives to road ambulance transport to hospital
  - Patients transported in private vehicles, on public transport or by taxi
  - Helicopter landing sites established at rural residential music festivals
  - Paramedics on SES boats operating across Swan River (Perth Fireworks)
    - Patient access for response & retrieval, avoiding long road delays
  - Water rescue / retrieval (Ironman NZ, Ironman Melbourne, Tough Mudder)

Decision to Transport Patients

The decision to transport a patient within an event is made by the responding crews. Subsequent decisions on when and where to transport patients, and by whom, are more complex. An objective decision should be made, based on the best outcome for the patient, resource availability and pre-determined strategic planning. Commanders that are not involved in the patient's clinical care may override these decisions.

Patient transport decision-making is intimately linked to strategic ambulance and hospital avoidance. Making optimal use of all available transport resources within an event shares the workload and reduces the likelihood of having to use "normal business" resources to supplement event-specific transport crews.

Transporting patients directly to an onsite medical facility returns the transport crew to operational status far more readily, with waiting and "off-stretcher" times much shorter than those routinely experienced in emergency departments. Expediting crew 'return to service' reduces response times to new cases. Subsequent 'secondary transfers' to hospital (eg. from an event medical team) can then be planned during periods of lower demand, making use of onsite extended patient care capacity.

The Notting Hill Carnival provides many examples of how patient transport can be effectively managed. St John and LAS response crews are used interchangeably to respond to cases and either a St John or LAS crew may transport a patient to hospital. The receiving hospital will be pre-notified of each incoming patient by name and the transport vehicle is rapidly returned to service. Should there be a significant delay or congestion at the hospital, a senior LAS commander attends the hospital.

Vehicles

Mass gatherings often present challenging situations for patient transport and vehicle access. The use of specialist and purpose-built vehicles is often advantageous and may include event buggies, 4WD ambulances, boats and aircraft. Patient and staff safety is paramount and transport vehicles should therefore comply with Australian and New Zealand engineering standards for ambulance design.

Event organisers will often agree to buffer the impact of their event by contracting event-specific ambulance resources but non-event "normal business" ambulances may still do the offsite transport. NEPT services are used intermittently for this purposes but there is capacity for this to be greatly expand, especially given the dominant use of NEPT crews for "normal business" inter-hospital transfers after the patient has had a preliminary assessment by a medical practitioner.

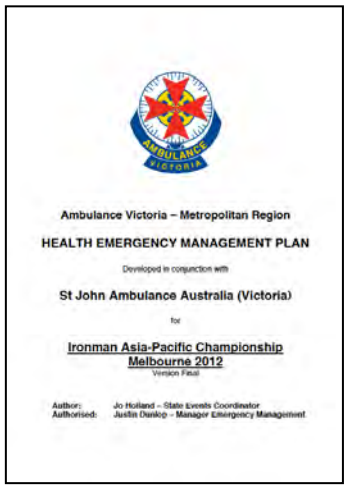
Transporting patients away from events to hospital may involve long transport and emergency department waiting times. If non-event ambulance crews are engaged, "normal business" response capacity may be affected, with greatest impact experienced in rural areas with pre-existing local ambulance resource limitations.

Community demand for emergency department and ambulance responses in Australia is at unprecedentedly high levels. As hospitals, ambulance services and governments investigate strategies to address this complex issue, it is timely to challenge existing and default models, with a view to reducing mass gathering and emergency-related demand increases.

Safe alternatives to traditional ambulance transport to hospital that were witness during this project are listed on the opposite page.

Health Planning

Health Planning References (WA Health, EMA, Vic Dance Party Code of Practice, Vic SHERP)



Event Health Plans – Notting Hill Carnival (NHS), Ironman Melbourne (AV HEMP, SJ Ops Order)

Event examples of effective integrated Health Planning:

- Notting Hill Carnival
  - Teleconference (led by LAS Silver) with all local hospitals in the week before event
  - LAS & SJ Silver Commanders attend both agency briefings in week before event
- Ironman Melbourne
  - Event organiser wrote to Peninsula Health & The Alfred hospital before the event
  - Communication advised event scope & presence of St John medical teams
- Ironman NZ
  - Medical team (NZ Territorial Forces), Ambulance (St John), first aid (volunteers)
  - Local health service (hospital) involved by default – local GP deputy medical director
- City 2 Surf
  - NSW Health strategic objective to reduce emergency department presentations
  - Strategic objectives in Health Plan and shared with ASNSW and St John
- Melbourne Cup Carnival
  - Collaborative AV & St John planning, with on-site Health Incident Management Team
- Brisbane CBD (NYE)
  - Queensland Health initiated CBD treatment post aiming to reduce the number of drug and alcohol affected patients transported to emergency departments
- Meredith Music Festival
  - St John & Ambulance working with pro-active event organisers to provide medical care on-site during peak hours, with ambulance crews on-site at all times
- Falls Festival
  - Medical team (event volunteers / employees), Ambulance, First Aid (St John)
- Schoolies Festival
  - Local health service increases medical staffing & bed availability for duration of event
- Multiple event health providers
  - Health Commanders appointed to all mass gatherings in Victoria
  - City 2 Surf, Tough Mudder, Ironman Melboune & NZ
  - Specialist services (eg. Water Rescue – Life Saving Victoria, SES WA)

11 Health Planning

Health Planning for mass gatherings is inherently complex and often involves multiple organisations with different structures, priorities and capacity. The planning process is critical to defining and enforcing strategic plans and ensuring harmonisation of event-day service delivery models.

Health planning is most effectively done collaboratively, with ambulance often taking functional command of planning and event day operations. Event organisers may appoint a "Medical Director" as a member of the event management executive, although their clinical and event experience often varies widely and the position tends to function best as a liaison and coordinating role between the event organiser executive and health providers. Health planning is rarely (and often understandably) the primary concern for even the most conscientious event organiser. It is often contingent on health providers to justify their service delivery model and resource requirements, especially when negotiating a fee for service. Event health planning legislation and enforceable standards assist greatly in these negotiations but are jurisdiction dependent and currently very limited in Victoria.

It is important that an integrated health plan be produced and distributed for mass gatherings, especially when multiple health providers are involved at the one event. Ideally health planning will engage and actively involve both the hospital and pre-hospital sectors, but this is often difficult in practice. The final plan needs to accurately and objectively reflect the scope and capacity of all organisations involved.

The Victorian State Health Emergency Response Plan is extrapolated to incorporate major event planning and event day operations. While there are many valid overlapping features between events and emergencies, SHERP is a tactical framework and lacks event-specific planning and operational features and many of the strategic objectives discussed in this paper. In contrast, the UK NHS Gold / Silver / Bronze command structure clearly differentiates strategic, tactical and operational responsibilities.

Co-ordination of Emergency Services

* 35. The police, fire and ambulance services should maintain through senior nominated officers regular liaison concerning crowd safety at each stadium.

* 36. Before each match at a designated stadium, the police should ensure that the fire service and ambulance service are given full details about the event, including its venue, its timing, the number of spectators expected, their likely routes of entry and exit, and any anticipated or potential difficulties concerning the control or movement of the crowd. Such details should be readily available in the control rooms of each of the emergency services.

* 37. Contingency plans for the arrival at each designated stadium of emergency vehicles from all three services should be reviewed. They should include routes of access, rendezvous points, and accessibility within the ground itself.

* 38. Police officers posted at the entrances to the ground should be briefed as to the contingency plans for the arrival of emergency services and should be informed when such services are called as to where and why they are required.

First Aid, Medical Facilities and Ambulances

* 39. There should be at each stadium at each match at least one trained first aider per 1,000 spectators. The club should have the responsibility for securing such attendance.

40. There should be at each stadium one or more first aid rooms. The number of such rooms and the equipment to be maintained within them should be specified by the local authority after taking professional medical advice and should be made a requirement of any Safety Certificate.

* 41. The club should employ a medical practitioner to be present at each match and available to deal with any medical exigency at the ground. He should be trained and competent in advanced first aid. He should be present at the ground at least an hour before kick-off and should remain until half an hour after the end of the match. His whereabouts should be known to those in the police control room and he should be immediately contactable.

* 42. At least one fully equipped ambulance from the appropriate ambulance authority should be in attendance at all matches with an expected crowd of 5,000 or more.

43. The number of ambulances to be in attendance for matches where larger crowds are expected should be specified by the local authority after consultation with the ambulance service and should be made a requirement of the Safety Certificate.

Excerpt from recommendations following 1989 Hillsborough FA Cup crowd crush

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12 Research

There is a growing body of literature on mass gathering health service delivery, with a strong link to pre-hospital and disaster medicine. Studies and published data tend to fall into one of three groups:

- Mega Event public health planning & impact (eg. Olympics, the Hajj, FIFA world cup)
- Case studies of single events or event types (eg. music festivals, extreme events)
- Examination of mass gathering & disaster health planning, preparedness & delivery

Many of these papers refer to the impact and benefits of on-site 'medical staff' in addition to first aid services: 'medical' staff is often used to reflect any combination of doctors, nurses, paramedics. Case series tend to report, to varying degrees, a reduced need for ambulance transports and hospital admissions. A small number of papers discuss additional features in mass gathering and disaster medicine, including:

- Opportunities to capitalise on mass gatherings for health disaster training,
- The impact of hospital-related incidents on disaster preparedness, including the effect of emergency over-crowding and ICU bed availability,
- Proposing models of medical care delivery at music festivals, and
- Examining the validity of managing mass casualty events with expanded 'normal business' activity & resources

St John Ambulance Australia has a history of innovative research in pre-hospital advanced practice and mass gatherings, including:

- Cardiac arrest outcomes at the MCG & Melbourne Shrine of Remembrance, with direct implications for pre-hospital management of cardiac arrest and the introduction of public access defibrillation
- Creation of predictive modelling for mass gathering patient presentations
- Review of evidence in mass-gathering medicine
- Case studies of major events (eg. M2006 Commonwealth Games)
- Foundation work on the impact of pre-hospital medical teams at music festivals on ambulance & hospital avoidance

St John Victoria has deployed Medical Assistance Teams to over 200 events since 2004.

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
MAT deployments	2	3	20	23	23	31	43	39	35

Over 10,000 patients have been treated by a St John MAT in this period, at a range of single day and residential music festivals, running festivals, endurance & other events. The data below shows all ambulance transports from events, including those that by-pass the MAT:

Event(s)	First Aid	MAT	Amb Transports
Pyramid Rock NYE 09/10	1,148	174 (15%)	15 (1% total, 8% MAT)
Dance Parties (2009-10)	3,261	414 (13%)	76 (2.3% total, 18% MAT)
Big Day Out (2011)	1,512	80 (5%)	10 (0.6% total, 12% MAT)
2011 - 39 MAT deployments	4,451	701 (16%)	70 (1.6% total, 10% MAT)
2012 - 35 MAT deployments	4,288	820 (19%)	96 (2.2% total, 12% MAT)

There is little published literature describing the application of a single integrated health model, with a fully integrated medical team, to such a wide variety of events. St John Vic is collating data from all of these events, to quantitatively determine resource and cost savings due to hospital and ambulance avoidance. Ethics approval for this study was granted in 2012. The construction of this research framework is a core objective of this project.

Costs & Savings Estimates

<u>Resuscitation Cubicle</u>

Cardiac monitor $30,000+
- Ironman Melbourne MAT (6)
- Ironman Melbourne HERT (3)

Stretchers $10,000
- Ironman Melbourne (8)
- Melbourne Marathon (8)

Oxygen Resuscitation Bag $2,000
- Large Music Festival (6)
- Melbourne Marathon (8)

Intubation module $500
- Large Music Festival (3)

Resuscitation Bag

i-Stat Blood Analyser

Medication Module

<u>Dedicated MAT Truck</u>

- Mobile deployment capacity
- 4 stretchers
- 4 cardiac monitors
- Camp stretchers
- Medical trolleys
- Bulk supplies
- Fridge & secure medication storage

St John Vic State Logistics Warehouse

13 Cost & Saving Estimates

Deploying medical teams and mobile advanced practice response teams involves a large amount of expensive specialist medical equipment and considerable logistics capacity.

13.1 Staff Expenses

St John Vic MAT deployments are staffed by volunteer health professionals, first aiders and support staff and supported by a salaried event planning and member support. Employment costs in a non-volunteer model may be passed to the event organiser or borne by hospitals as an ambulance and hospital avoidance initiative or if the event is used as an emergency management exercise.

13.2 Equipment Expenses

It is beyond the scope of this report to provide a formal reconciliation of individual MAT deployment costs. St John Vic has invested more than $300k of St John and donated funds into MAT equipment: some items and costs are pictured on the facing page.

Consumable expenses vary depending on the deployment and event day workload and may add considerably to the deployment cost. Additional expenses include but are not limited to equipment servicing & repairs, medications, intravenous fluids, blood analyser cartridges, disposable linen / bed covers, suturing equipment & dressings.

13.3 Estimated Savings

Each patient not transported to hospital by ambulance saves the health system money. The following table shows the current full cost of ambulance treatment and transport in Victoria for those not insured against the cost of ambulance services.

	Base rate	+ $ / min	Additional cost
Emergency road transport (metro)	$990.41	-	-
Emergency road transport (rural)	$986.74	$11.95	$1.16 / km
Air ambulance – fixed wing	$911.54 for 1st hour	$15.21	+ road transport
Air ambulance – helicopter	$3,436.92 for 1st hour	$57.29	+ road transport

Figures effective 01/01/2013 (http://www.health.vic.gov.au/ambulance/fees.htm)

Since 2004, over 10,000 patients have been managed in the St John MAT and approximately 90% of these have not been transported by ambulance to hospital. Our current research project aims to objectively quantify the proportion of this 90% of patients that would otherwise require ambulance transport to hospital, in the absence of an onsite medical team. Until this data is collated and published, the following estimated cost savings for the period from 2004 to 2012 are worthy of consideration:

- $900,000, if 10% of all MAT pts needed road ambulance transport
- $2.25 million (if 25% of all MAT patients required transport)

The financial value of some avoided ambulance transports cannot be estimated. For example, an onsite event medical team at a rural event that leaves local ambulance crews free to attend local community emergencies may literally mean the difference between life and death. This is also the rationale for ambulance providing dedicated event ambulance crews and vehicles. Furthermore, each dedicated event resource paid for by the event organiser further reduces the cost of the event to the taxpayer.

These estimates do not include savings due to avoided emergency departments visits. The national productivity commission notes the complexity of calculating hospital and medical costs, so a more qualitative representation of reduced ED congestion, known to increase patient morbidity, may be of greater relevance to this discussion.

Mass Casualty Incident
ANZAC Day Parade, Melbourne

Major Event & Emergency Response Trailer
St John Tasmania

February 2009 Victorian Bushfires

14 Links to Emergency Management

There are inherent links between Mass Gathering and Disaster Medicine that are reflected in literature and every day clinical practice. Emergency services are on-site for most mass gatherings and function best with a multi-agency event operations centre, especially when event organisers actively support these systems.

In Australia, emergency management practice is governed by the Australasian Inter-service Incident Management System (AIIMS). AIIMS prescribes an 'All Hazards, All Agencies" interoperability standard that is well suited to emergency and health service operations at mass gatherings. Mass gatherings therefore provide excellent and regular opportunities to test systems and resources, train staff and build inter-agency relationships, providing event organisers are supportive.

Project examples of Mass Gatherings multi-agency Command

- Notting Hill Carnival – Gold, Silver, Bronze with multiagency EOC
- Victorian State Health Emergency Response Plan model for major events
- F1GP & Melbourne Cup – on-site Health Incident Management Team (HIMT)
- City 2 Surf – Sydney Government Coordination Centre
- Australia Day Fireworks – Multi-agency EOC (Perth)

Ambulance services and hospital emergency departments will necessarily be impacted by any disaster with a significant health component. Health emergency plans are designed to compliment and up-scale 'normal business' operations, in preference to introducing new systems, but are difficult to exercise with services normally running near or at capacity.

Project examples of using Mass Gatherings as Emergency Health Exercises

- City 2 Surf – annual NSW Health Displan exercise
- Ironman NZ – Territorial Forces medical team annual exercise
- Melbourne Cup Carnival – HIMT & ambulance Western Shelters established

In practice, unfortunately, there is often a functional disconnect between pre-hospital and in-hospital emergency responses plans, despite the emergency department being the default interface. In Victoria for example, there is minimal reference to the Australian standard "Code Brown" hospital alert for external emergencies in the State Health Emergency Response Plan (SHERP). Both plans suit their intended purpose but have been developed in isolation and fail to define and manage the interface between the hospital and out-of-hospital environment in disaster management.

Khorram-Manesh et al (2009) reported on the impact of hospital-related incidents on disaster preparedness and pre-hospital organisations, including the effect of emergency department over-crowding, intensive care bed availability and hospital patient flow. Mass gatherings, mega events and disasters all have potential to generate increased need for ambulance transports, hospital presentations and intensive care resources. In recognition of this, the Australasian College for Emergency Medicine guidelines for emergency department design include consideration of capacity to "facilitate hospital responses to major incidents". Deploying staff and disaster kits to planned events also increases staff familiarity with the out-of-hospital environment, increases equipment familiarity and enables turn-over of consumables to minimise expiry and wastage. This can also be simulated, to a limited degree, through the use of tabletop and Emergotrain exercises.

Addendum – January 2013

At the time of finalising this report, two additional event-related emergency management situations occurred. Each is relevant to this project & worthy of brief discussion:

Phillip Island Bus vs Car Crash (January 2013)
Senior St John staff became aware of upto 40 patients being injured in a high-speed motor vehicle crash on Phillip Island late on Saturday night. St John contacted the Ambulance Emergency Operations Centre (AEOC) to offer assistance. A team of 6 St John members (3 doctors, 2 nurses & 1 logistics) responded to this incident – 17 low acuity "walking wounded" patients were assessed & 6 subsequently transported to hospital.

St John members, including a large contingent of health professionals, were incidentally working on Phillip Island for the weekend (Sat & Sun) for Tough Mudder: St John members were accommodated approximately 5km from the crash site. St John and local ambulance managers have a standing agreement that St John will assist with any mass casualty incident while on Phillip Island for major events.

Phillip Island has limited health and ambulance resources with 1-2 hour road transport times to appropriate receiving hospitals. Consequently, the ambulance response to this incident involved multiple road and air ambulance resources, many from out of the local area. Returning local resources to operational status is a priority, to ensure that the local community has ongoing emergency ambulance coverage.

Impact:
St John medical staff review of low acuity patients at the incident scene reduced the number of patients requiring ambulance transport to hospital by 60% (6 of 17 pts required ambulance transport, while the remaining were transported by minibus).

Discussion points:
- If St John MAT deployments were registered as an on-call resource on the centralised ambulance computer aided dispatch (CAD) system, dispatch could have been immediate (St John crews arrived an hour after the initial '000' call). This is of particular relevance in rural and remote areas where SJ MAT deployments may exceed existing local hospital & ambulance capacity.
- This response reinvigorated discussion about the engagement and credentialing of medical practitioners for emergency response in the pre-hospital environment. This is particularly topical in the context of the coronial review of the 2007 Kerang Train Crash.

Audax Alpine Cycle Classic (January 2013)
St John was contracted to provide first aid and health services to this endurance cycling event, held annually over a number of courses (upto 250km long) in the Alpine National Park. This event coincides with the peak fire danger period and courses through areas with inherently poor telecommunications. This year a large fire was burning around Mt Hotham and the southern stretch of the 250km loop & other roads were being used by fire services.

Impact:
The event organisers changed sections of the course to avoid high fire danger areas and avoid shared road usage with large numbers of fire fighting appliances.

Discussion points:
- St John routinely distributes copies of Event Operations Orders to emergency services, in part to ensure that there is ready access to command team details in case of external emergencies impacting on events
- Event organisers used social media effectively to update participants with course changes prior to event day. Communicating with competitors on course is much more difficult & analogous to managing 'vulnerable persons' during emergencies

Use of Pre-Hospital Medical Teams in Disasters

The role of doctors in the out-of-hospital environment varies greatly in different jurisdictions. In London, medical officers are fully integrated into ambulance dispatch, to the point where medical directors are actively engaged in mass gathering planning and management and credentialed doctors are deployed to 999 cases during normal business. In contrast, in Victoria, paramedics provide the vast majority of out-of-hospital treatment, with community volunteers and Remote Area Nurses also utilised in rural areas. Doctors now work on inter-hospital retrieval services and there is scope for individual Field Emergency Medical Officers (FEMOs) and/or Victorian Medical Assistance Teams (VMATs) and/or specialist surgical teams to be deployed into the field during emergencies, but systems for this are less well defined. Most other jurisdictions visited are between the London and Victorian structures.

The Australian Medical Assistance Team (AusMAT) program trains team members in preparation for overseas deployments. The program is managed from the National Critical Care and Trauma Response Centre (NCCTRC) in Darwin, with teams deployed often geared towards public health and primary care, and drawn from multiple jurisdictions to spread the impact on local health service staffing. AusMAT team members complete a 3 day training course and can practice working in austere environments while providing medical support to the week-long 600km Tour de Timor cycling event in Timor-Leste.

In Australia, medical teams form part of most state disaster health response plans but the frequency with which these plans are enacted is jurisdiction-dependent and highly variable. The reason for deployment, during exercises and disasters, is often either an overwhelming number of patients or the need for specialist skills (eg. a surgical team) on-site. Victorian Medical Assistance Teams were deployed to rural hospitals during the February 2009 Bushfires to provide 24 hour emergency medical services: the stated aim was to give the local general practitioners, many personally affected by the fires, a break but we quickly found ourselves managing and discharging emergency cases that would otherwise have required transport to a larger hospital. A similar model has been proposed during debriefs from regional health service Emergotrain exercises, where medical teams might staff smaller regional hospitals to provide ongoing monitoring, secondary triage and re-prioritisation of ambulance transport requirements, while freeing resources to clear the incident scene.

There is a growing body of literature showing that on-site medical teams at mass gatherings reduce the number of ambulance transports and hospital presentations, although much of the supporting data is drawn from single events or event types. In contrast, the St John Victoria Medical Assistance Team model has been developed for and tested at a wide range of events, while maintaining mobility and capacity for emergency response as required. Systems and resources have been developed and refined by a team of doctors, nurses and paramedics with extensive pre-hospital experience, working closely with operational, technical and logistics experts.

In the early days of St John Vic medical team deployments there was intermittent conflict resulting from medical practice in the the predominantly paramedic-based pre-hospital care environment. This has improved significantly but ambulance documentation and staff training material continues to understate MAT scope of practice and strategic intent. Integration of the St John MAT model is greatly assisted by St John using an AIIMS/ICS foundation as the national standard for event and emergency command.

The eight health professional operational objectives introduced in this paper, and the strategic deployment of pre-hospital medical teams, are equally applicable to emergency response. This was proven by the rapid establishment of a SJ medical team in Whittlesea on Black Saturday 2009. St John Queensland and the Australian Medical Association (Qld) jointly established medical teams at evacuation centres during the 2011 Brisbane floods to service low acuity presentations, mental health & requests for prescriptions.


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15 Conclusion

Mass gatherings and emergencies can place a large demand on surrounding health and ambulance services. With hospital and ambulance demand at unprecedented high levels, it is timely to consider alternatives to the traditional ambulance-hospital transport solution from events for patients that exceed first aid scope of practice.

St John Ambulance Medical Assistance Teams have managed more than 10,000 patients at over 200 public events since 2004. During this period, it has become increasingly clear that up to 90 percent of these patients can be safely managed onsite and do not require ambulance transport to an emergency department. Preliminary calculations estimate that the savings, from avoided ambulance transports over this period, exceed $1 million. The complexity of hospital funding makes the full extent of this impact difficult to quantify but any contributions to reducing emergency department congestion improves patient safety and emergency department efficiency.

Mass gatherings also provide excellent training opportunities for junior and student health professionals. It is important to acknowledge that the pre-hospital environment is an unfamiliar practising environment for most doctors and nurses and that traditional professional boundaries are often blurred. The St John MAT model encourages cross-professional mentoring and education and provides an excellent training environment for those interested in pre-hospital clinical practice. Ironman NZ and Sydney's City2Surf are further examples of the successful use of mass gatherings for pre-hospital health training.

The St John MAT model incorporates the eight operational objectives discussed in this report with mainstream emergency department and short stay observation unit patient flow and management principles. St John clinical practice guidelines support indemnified nationwide independent practice by appropriately credentialed paramedics, registered nurses and medical practitioners. National paramedic registration and the use of medical standing orders for nurses would greatly simplify this and compliment pre-hospital first aid and health service regulation.

Event first aid and pre-hospital health service regulation varied in all jurisdiction visited. In London, tight regulation has resulted from the Hillsborough football tragedy, while in Victoria there are few enforceable health planning standards. Implementation of first aid and pre-hospital health service regulation in Victoria is strongly recommended, especially given the large number of local and major events held. This should accompany a revision of the State Health Emergency Response Plan to achieve greater integration with hospital external emergency planning. A clear strategic intent to minimise the impact of mass gatherings and emergencies on local health and ambulance services is also recommended

Volunteers were heavily involved in first aid and health service provision at each of the events visited during this project. As the CFA and SES are dependent on volunteers, so too should mass gathering and emergency health service provision be recognised for its reliance on volunteer first aiders and health professionals. It is important to acknowledge and respect the significance and professionalism of this volunteer contribution.

This report identifies opportunities for Victoria & St John Ambulance to further improve first aid and health service delivery at mass gatherings and during emergencies. This can be achieved through improved strategic health planning and greater integration of existing resources. Money saved through the implementation of the strategies discussed in this report, if redirected, would greatly assist the development and maintenance of systems and resources to support event and emergency health promotion, provision and protection.


St John
We aim for
at least
1
person
educated
to provide First Aid
in every
home
& prepared
equipped
workplace
& gathering.
We're about saving lives through First Aid

16 Acknowledgments

St John Ambulance is an international charity providing first aid, health care and support services in over 40 countries. There are over 250,000 volunteers and staff working with St John around the world: 10,000 of these volunteers provide first aid and health services at local events, mass gatherings and during emergencies around Australia.

This report is dedicated to all of the St John volunteer cadets, first aiders, health professionals and support staff whose work is testament to the fact that professionalism is about behaviour and attitudes, and not if or how much one is paid. Special mention must be made of our friends, families and employers whose understanding makes this all possible.

This report is also dedicated to the memory of our departed friend and colleague Scott Mason. Scott was the Victorian Manager of the Medical Assistance Team until his premature death in late 2011. He remains dearly missed by us all.

I personally owe special thanks to the following organisations & people:

⇨ Emergency Services Foundation
⇨ State Government of Victoria

⇨ Project Referees & Supporters

Craig Lapsley PSM	Fire Services Commissioner
Alan Eade ASM	Chief Commissioner, St John Ambulance Australia
Dr Jaycen Cruickshank	Director Emergency Medicine, Ballarat Health Services
Stephen Horton	CEO, St John Ambulance (Victoria)

⇨ Event & Health Command Teams at all events, with special thanks to:

Paul Gates	London Ambulance Service
Mike Gibbons	St John Ambulance, London (Prince of Wales) District
Dr Fiona Sanders	Head Doctor, Emirates Stadium
Dr Robert Day	Medical Commander, City 2 Surf
Dr Lucy-May Holtzhausen	Medical Director, Ironman NZ

⇨ St John Ambulance State / Territory Commissioners, Superintendents & FAS Managers

⇨ St John Ambulance Event Command Teams

⇨ St John (Vic) Medical Assistance Team
All of our talented & dedicated health professionals & students
Administration & logistics, especially Dean, Jackie, Steph, Tracy & Vince
Fellow members of the MAT Brains' Trust – Alan Eade, Kristy Austin & Martin Dutch

Final thanks must go to family, friends & my wife Jenny for helping make all of the time away travelling work!

17 Correspondence

Dr Stephen Luke OStJ MAIES
State Operations Manager
St John Ambulance (Vic)

Mobile: 0417 112 357
E-mail: sluke@stjohnvic.com.au


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18 Glossary

Acuity	Measure of clinical severity (high = more unwell / serious)
AED	Automated External Defibrillator
AIIMS	Australian Inter-Service Incident Management System
ALS	Advanced Life Support
ASNSW	Ambulance Service of NSW
AusMAT	Australian Medical Assistance Team
AV	Ambulance Victoria
Avoidance	Alternate discharge to ambulance transport and/or hospital transport
BERT	Bicycle Emergency Response Team
BP	Blood Pressure
CAD	Computer Aided Dispatch
CCP	Casualty Clearing Post
Code Brown	Standard code for emergency external to and impacting on hospital
CPG	Clinical Practice Guideline
CRU	Cycle Response Unit (UK)
ECG	Electrocardiogram
ED	Emergency Department
FEMC	Field Emergency Medical Coordinator
FEMO	Field Emergency Medical Officer
GCS	Glasgow Coma Score – standard clinical measure of conscious state
Health Commander	Pre-hospital health command role (as defined in Victorian SHERP)
HEMP	Health Emergency / Event Management Plan
HERT	Health Emergency Response Team (team of 2 St John health professionals)
HF	High Frequency radio – long distance
HIMT	Health Incident Management Team – all health agency commanders
ICS	Incident Control Systems
i-STAT	Portable blood test analyzing machine
Manpack (radio)	Mobile base radio
MAT	Medical Assistance Team
MIMMS	Major Incident Medical Management & Support
NCCTRC	National Critical Care and Trauma Response Centre (Darwin)
NECA	National Emergency Coordination Arrangements (St John national)
NEPT	Non-Emergency Patient Transport
Portable (radio)	Handheld radio
RTS	Revised Trauma Score (calculated from GCS, BP & Respiratory Rate)
SAAS	South Australian Ambulance Service
SHERP	State Health Emergency Response Plan (SHERP)
Sieve (Triage)	Preliminary rapid triage assessment tool
SJ	St John Ambulance
Sort (Triage)	Secondary triage assessment – based on GCS, Resp Rate & BP
Spatial (Dilution)	Distribution of patient(s) to alternative location(s)
Temporal (Dilution)	Distribution of patient(s) for review at a later date / time
UHF	Ultra High Frequency radio – short distance
VHF	Very High Frequency radio – medium distance
VMAT	Victorian Medical Assistance Team (as defined in Victorian SHERP)


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We aim for
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in every
home
& prepared
equipped
workplace
& gathering.
We're about saving lives through First Aid

Appendices

1. Summary of Recommendations

2. Event Reviews

3. EMC 2012 Conference Presentation


ST JOHN AMBULANCE AUSTRALIA
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Appendix 1

Summary of Recommendations


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Mass Gatherings:
Health Promotion, Provision & Protection

RECOMMENDATIONS
St John Ambulance Victoria

EVENT SERVICE DELIVERY
- Actively support& champion the development of a standard national St John approach to event management, including multi-state and/or national clients
- Continue to improve client-focussed interface with event organisers, including:
  - Greater explanation of St John health service delivery model to clients
  - Cost & publicity benefits of reducing event impact on local health resources
- Consider addition of additional event day services, including:
  - Event day patient transport services
  - Pharmacy services for residential events, within limitations of health services permit
  - Increase independent nursing practise through use of medical standing orders
  - Quote to stay later to reduce end-of-event transports due to time pressures

REGULATION & BEST PRACTICE
- Maintain commitment to implementing, championing & developing best practice Standards in pre-hospital health service delivery, including:
  - Active contribution to Victorian government committees & working groups
  - Active involvement in health-related emergency management exercises & responses
  - Sharing St John expertise in the development of Victorian government:
    - Event health planning Standards & Regulation
    - Event first aid & health service delivery guidelines
- Gain formal clarification of legislation governing patient transport, including:
  - Authority to transport on registered roads
  - Actual legal restrictions on transport within event context
- Expand existing Operations Orders to better describe St John clinical scope of practice

RECOGNITION & RECRUITMENT
- Support and maintain a culture that encourage St John members to:
  - Apply for ESF scholarships
  - Produce peer-reviewed research to support health service delivery model
- Increase use of media to achieve:
  - Pre-event public health message delivery
  - Greater recognition of full scope and capacity of St John event health services
- Targeted recruitment of health professionals and specialist support staff through professional colleges & recruitment of student health professionals through universities
- Improve recognition of St John volunteer contribution to emergency management
- Continue development of commander training and student health professionals

SUPPORT SERVICES & RESOURCES
- Maintain state vehicle fleet compliance with AS&NZS ambulance engineering standards
- Refine MAT patient treatment records to include:
  - Agreed standard to be used by AV paramedics during shared deployments
  - MAT database – real-time patient map, internet interface/sync function, data collation

PARTNERSHIPS
- Work with Health Department to facilitate emergency exercises / training of AusMAT staff to increase staff familiarity with medical care in the out-of-hospital environment
- Maintain relationships and develop strategic partnerships to facilitate the delivery of health promotion messages (eg. SunSmart, DanceWize)
- Work with FEMO program, Health Department, AV and Health & Medical Sub-Committee to improve hospital notification of significant events within their catchment
- Continue AV collaboration to exercise & refine primary care clinic resources at events


ST JOHN AMBULANCE AUSTRALIA
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RECOMMENDATIONS

St John Ambulance Australia

EVENT SERVICE DELIVERY

- Facilitate the standardisation of approach to multi-state clients, including:
  - Uniform customer service standards
  - Provision of equivalent service delivery in each jurisdiction
  - Adoption of equivalent structured fee for service model in all jurisdiction
  - Facilitate and encourage state / territory sharing of resources & expertise
- Appoint a Chief Operations Officer to the National Staff Group to manage national operational projects, develop professional networks & share best-practice resources
- Facilitate opportunities for event commanders to travel to other states/territories to share expertise and learn new skills – consider creation of annual scholarship program
- Continue support of independent practice for registered nurses and paramedics to provide definitive care within SJ clinical practice guidelines and scope of practice

REGULATION & BEST PRACTICE

- Consolidate resources & organisational expertise into the development of a national St John event management resource kit, incorporating best practice guidelines for first aid and health service provision at events, mass gatherings and during emergencies
- Support the development of legislated event health service delivery standards in all jurisdictions, including minimum standards for:
  - Pre-hospital health service providers
  - Event organisers, incorporating first aid facilities standards
- Share event & emergency health expertise to generate publicly available best practice resources, including review & update of EMA *Safe and Healthy Mass Gatherings* Manual
- Develop mechanisms to share organisational expertise with external stakeholders
  - Best practice event health planning & delivery guidelines, health risk assessment tool

RECOGNITION & RECRUITMENT

- Compile state/territory expertise into national event & emergency media guidelines
- Optimise media exposure to increase community awareness of SJ as a national first aid and health service provider
- Develop systems & resources for managing spontaneous first aid & health professional volunteers during emergencies, with potential application for mass gatherings
- Develop national annual scholarship program to support commander travel, study and skill development

SUPPORT SERVICES & RESOURCES

- Develop online national database to support cross-border deployments by:
  - Facilitating & listing health professional credentialing
  - Recording commander accreditation, experience & credentialing
- Formalise national Commander Training Accreditation framework, to include standard course content, resources & experiential learning requirements
  - Map framework to industry competencies where practical
- Improve & formalise systems to facilitate cross-border transfer of logistics support
- Maintain & further develop Natcomms interoperable communications framework

PARTNERSHIPS

- Optimise national relationships with post-graduate clinical colleges & associations to increase professional awareness & recruiting of health professionals
- Develop strategic partnerships with other not-for-profit organisations to improve the delivery of health promotion messages (eg. SunSmart)
- Develop national SJ research interest groups to ensure that all interested parties are engaged in related research projects


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RECOMMENDATIONS

Victorian Health Event & Emergency Management

EVENT SERVICE DELIVERY

- Functionally integrate all health providers involved in event & emergency health service provision, including first aid, ambulance, medical teams, FEMO program & hospitals
- Clarify responsibility for & improve integration of health planning & response, including:
  - Integration of hospitals into health planning for events & emergencies
  - Clarification of appropriate & responsive hospital contacts in each health service
  - Improve systems for providing Health Event Management Plans to hospitals
- Encourage more active participations of all hospitals (metropolitan, regional & rural) in planning for mass gatherings & emergencies within catchment areas, including:
  - Adding triggers to increase staffing to enable 'normal business' to continue while
  - Strategies to re-distribute clinical workload between neighbouring hospitals
- Ensure that first aid providers to state fire services comply with SHERP requirements
- Include first aid & medical team deployments on state-wide event & emergency maps
- Improve patient information sharing systems from events to receiving hospitals

REGULATION & BEST PRACTICE

- Regulate health service delivery at mass gatherings, including:
  - Legislated minimum standards for pre-hospital first aid & health service providers
  - Enforceable minimum standards for onsite health resources for event organisers
  - Introduction of clear event organiser accountability for event health planning
- Clarify definition and rationalise existing patient transport legislation, including:
  - 'Event standby', non-emergency patient transport, actual legal transport restrictions
- Refine and enhance the SHERP to include greater applicability to mass gatherings and:
  - Addition of strategic overlay to compliment existing tactical and operational content:
    - Include strategic focus on implementing plans to reduce the impact of mass gatherings and emergencies on local health & ambulance resources
    - The eight core objectives described in this paper are proposed as a starting framework with demonstrated efficacy
  - Continuity with hospital emergency plans, especially external / Code Brown incidents
- Integrate hospitals and health services into pre-hospital health emergency notifications in event planning phases & during significant clinical incident within hospital catchment
- Improve emergency service and hospital awareness of SHERP, including:
  - Increase emergency health planning component in non-health EM training
  - Increase prominence of "Medical" cell in ICS management structure
- Incorporate strategic & tactical features of Gold/Silver/Bronze command into ICS

RECOGNITION & RECRUITMENT

- Ambulance recognition of SJ MAT as a hospital-equivalent for patient handover
- Improve recognition of volunteer contribution to event & emergency health services
- Support recruitment of volunteer emergency health providers

SUPPORT SERVICES & RESOURCES

- Work with St John to increase opportunities to exercise Field Primary Care Clinic, emergency response equipment & VMAT / AusMAT staff at mass gatherings
- Increase government financial support to St John Vic in recognition of reduction in impact of mass gatherings and emergencies on local ambulance & hospital resources
  - Eg. Use of estimated health savings to assist with St John equipment costs

PARTNERSHIPS

- Conduct integrated health agency event briefings & regular scheduled HIMT meetings
- Update training and reference material for Health Commanders, MICA paramedics & AV staff to better reflect the true nature and extent of St John MAT scope of practice


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Appendix 2
Event Reviews

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: City 2 Surf **Dates(s):** 14/08/11

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)				
☐ Airshow	☐ EM / Exercise	☐ Music Festival	1 National or International Event	
☐ Marathon	☐ New Year	☐ Protest	1 Est. attendance > 100,000	
Event Type	**Divisional**	**Regional**	**State**	
Ceremonial	☐ Local (funeral, memorial…)	☐ Municipal	☐ State	☐ ANZAC Day
Concert	☐ Local	☐ Children	☐ Stadium	☐ Large open-air
Festival/parade	☐ School	☐ Local	☐ Municipal	☐ Fireworks ☐ Capital City
Horse-related	☐ Club event	☐ Rodeo	☐ X-country	☐ Major carnival
Motor sports	☐ Club event	☐ Motorbikes	☐ Moto-cross	☐ State comp ☐ Nat comp
Sports	☐ Local	☐ Water	☐ Triathlon	1 Major carnival ☐ Endurance
Event Details				
Duration	☐ < 4 hours	1 4 - 12 hours	☐ 12-24 hours	☐ 1-7 days ☐ > 7 days
Queuing	☐ < 1 hour	1 1 - 2 hours	☐ 2 - 4 hours	☐ 4 - 12 hours ☐ > 12 hours
Time of day	1 Day	☐ Evening	1 Shift start at / before 06:00	☐ Overnight
Residential	☐ Indoor (fixed)	☐ Indoor (temp)	☐ Camping	☐ SJ staff sleeping on-site
Fatigue Risks	1 > 10hr shift	☐ > 1hr travel	☐ > 12hr shift	☐ Overnight on-call
Location (select all that apply with a "1")				
Precinct	☐ Indoor	☐ Secure site	1 Outdoor	1 Public Roads ☐ Remote
Venue	☐ Stadium	☐ Temporary	☐ Airport	1 No fixed outer boundary
Patron Demographics (select all that apply with a "1")				
Age	1 Young Adult	1 Adult	1 Child	1 Elderly
Seating	☐ Seating	☐ Marquee	☐ Grandstand	1 Standing ☐ "Mosh pit"
Groups	☐ Family	☐ Political	☐ Rival groups	☐ History of crowd violence
Est. attendance	☐ < 1,000	☐ 1 - 4,999	☐ 5 - 14,999	☐ 15 - 50,000 1 > 50,000
Previous / Similar Event Experience (select best option only with a "1")				
Pt numbers	1 Low (<1%)	☐ Mid (1-2%)	☐ 1st event	☐ High (> 2%) 1 Total > 200
Clinical & Logistics (select all that apply with a "1")				
Expected risks	☐ Alcohol	☐ Cold	1 Exercise	1 Medical ☐ Drugs
		1 Pt transport	☐ Heat	1 Dense crowd ☐ Trauma
Nearest hospital	1 Tertiary		☐ Regional	☐ Local rural hospital
Receiving hospital transport times		1 < 30min (road)		☐ > 30min (road) ☐ > 30min (air)
Comms coverage	☐ No mobile ph	☐ No SJ Network	☐ HF required	1 Comms assistance required
Vehicle access	1 2WD (sealed)	☐ 2WD (dirt rd)	☐ 4WD required	☐ Water access ☐ Air retrieval

Column total:	A 6	B 5	C 4	D 8	E 2

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **73**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name	**City 2 Surf**	Event Date:	**14/08/11**
Location	**Sydney CBD - Bondi Beach, NSW**	Duration:	8 hours
Attendance		Competitors: **85,000**	in addition to general attendance
Event Description	The world's largest fun run with 85,000 participants running a 14km course from Sydney CBD to Bondi Beach. Run annually in August since 1971. "Heartbreak Hill" is a key feature near the middle of the course. Forecast temperature 12-16 degrees.		

St John Resources

Total number of St John members: **242** Number of First Aid Posts:

Bicycle Emergecy Response Team (BERTs): **6** Location: along the course

Mobile Health Emergency Response Team (HERTs): **2** Location: finish line precinct

Patient transport: SJ not contracted to provide pt transport services

Medical Assistance Team (MAT): **2** Location(s): Campbell Parade - North & South (tents)

Command & Communications

SJ Command:	Commander at Bondi, Sector Commanders, IMT at State Office
Liaison:	SJ liaison officer at Government Coordination Centre
SJ Communications:	SJ UHF network (chnls 1,4 & 8). CAD in use from State Comms Centre
Health Command:	Medical Commander appointed (NSW Health). ASNSW operational command

Other Health Resources:

Ambulance:	ASNSW - triage paramedic (finish line), multiple event transport vehicles
Other Providers:	Honorary Medical Director (Fairfax City to Surf Medical Committee)
Medical Team:	2 x NSW Health medical teams & equipment - finish line & scout hall
Health Department:	NSW Health provides Medical Commander & medical teams from hospitals
Local Hospitals:	Strategic aim to minimise impact on local hospitals
Health Planning:	NSW Health, ASNSW & St John prepare operational plans

Patients treated:

Total clinical: **370** Non-clinical / preventive: **750**

Patient transports: **?** to SJ MAT **9** to hospital by ambulance **?** off-site by other means

In SJ MAT: Overview: predominantly dehydration, heat related illnesses

Key Features:

1. Annual HEALTHPLAN exercise for NSW Health (DISPLAN requirement)
2. NSW Health strategic intent to minmise cost by reducing no. of ambulance transports to
3. On-site NSW Health Medical Commander. Health Liaison Officer in GCC
4. ASNSW Triage Paramedic at finish line determines if pts go to First Aid or Medical Centre
5. Scout Hall Medical Centre is dedicated to patients transported by ambulance from the course
6. Established hyperthermia & other protocols - appendices to NSW Health Plan
7. Integrated SJ health services - First Aid, mobile bike response crews (BERT) & health professionals. Some overlap with NSW Health Medical Centres scope of practice

51yo cardiac arrest successfully defibrillated on the course

Other Comments:

Significant logistics challenges: difficult access across Campbell Parade (due to large and constant number of runners), long wait for buses to take people away from Bondi.

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Notting Hill Carnival **Dates(s):** 28-29/08/11

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)			
[ ] Airshow	[ ] EM / Exercise	[1] Music Festival	[1] National or International Event
[ ] Marathon	[ ] New Year	[ ] Protest	[1] Est. attendance > 100,000

Event Type	Divisional		Regional		State	
Ceremonial	[ ] Local (funeral, memorial…)		[ ] Municipal	[ ] State	[ ] ANZAC Day	
Concert	[ ] Local	[ ] Children	[ ] Stadium	[1] Large open-air		
Festival/parade	[ ] School	[ ] Local	[ ] Municipal	[ ] Fireworks	[1] Capital City	
Horse-related	[ ] Club event	[ ] Rodeo	[ ] X-country	[ ] Major carnival		
Motor sports	[ ] Club event	[ ] Motorbikes	[ ] Moto-cross	[ ] State comp	[ ] Nat comp	
Sports	[ ] Local	[ ] Water	[ ] Triathlon	[ ] Major carnival	[ ] Endurance	

Event Details					
Duration	[ ] < 4 hours	[ ] 4 - 12 hours	[ ] 12-24 hours	[1] 1-7 days	[ ] > 7 days
Queuing	[1] < 1 hour	[ ] 1 - 2 hours	[ ] 2 - 4 hours	[ ] 4 - 12 hours	[ ] > 12 hours
Time of day	[1] Day	[1] Evening	[ ] Shift start at / before 06:00		[ ] Overnight
Residential	[ ] Indoor (fixed)	[ ] Indoor (temp)	[ ] Camping	[ ] SJ staff sleeping on-site	
Fatigue Risks	[1] > 10hr shift	[ ] > 1hr travel	[1] > 12hr shift	[ ] Overnight on-call	

Location (select all that apply with a "1")					
Precinct	[ ] Indoor	[ ] Secure site	[1] Outdoor	[1] Public Roads	[ ] Remote
Venue	[ ] Stadium	[ ] Temporary	[ ] Airport	[1] No fixed outer boundary	

Patron Demographics (select all that apply with a "1")					
Age	[1] Young Adult	[1] Adult	[1] Child	[1] Elderly	
Seating	[ ] Seating	[ ] Marquee	[ ] Grandstand	[1] Standing	[ ] "Mosh pit"
Groups	[ ] Family	[ ] Political	[1] Rival groups	[1] History of crowd violence	
Est. attendance	[ ] < 1,000	[ ] 1 - 4,999	[ ] 5 - 14,999	[ ] 15 - 50,000	[1] > 50,000

Previous / Similar Event Experience (select best option only with a "1")					
Pt numbers	[1] Low (<1%)	[ ] Mid (1-2%)	[ ] 1st event	[ ] High (> 2%)	[1] Total > 200

Clinical & Logistics (select all that apply with a "1")					
Expected risks	[1] Alcohol	[ ] Cold	[ ] Exercise	[1] Medical	[1] Drugs
	[1] Pt transport	[ ] Heat	[1] Dense crowd	[1] Trauma	
Nearest hospital	[1] Tertiary		[ ] Regional	[ ] Local rural hospital	
Receiving hospital transport times	[1] < 30min (road)			[ ] > 30min (road)	[ ] > 30min (air)
Comms coverage	[ ] No mobile ph	[ ] No SJ Network	[ ] HF required	[1] Comms assistance required	
Vehicle access	[1] 2WD (sealed)	[ ] 2WD (dirt rd)	[ ] 4WD required	[ ] Water access	[ ] Air retrieval

Column total:	A 8	B 4	C 4	D 10	E 5

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **105**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Notting Hill Carnival** Event Date: **28-9/8/11**

Location: **Notting Hill, London UK** Duration: 2x14hr days

Attendance: **1.5 million** Competitors: **N/A** in addition to general attendance

Event Description: Open-air carnival with large street parade, second in size to the Carnivale in Rio. Multiple music stages and huge crowds literally take over Notting Hill for the 2 days. Underground stations are closed due to crowd crush. Gang violence is common after dark. This year was just after the London Riots.

St John Resources

Total number of St John members: **250+** Number of First Aid Posts: **9**

Bicycle Emergecy Response Team (BERTs): **?** Location: Allocated by sector

Mobile Health Emergency Response Team (HERTs): **?** Location: Allocated by sector

Patient transport: SJ & LAS share vehicle response & hospital transport responsibilities

Medical Assistance Team (MAT): **0** Location(s): No fixed medical team

Command & Communications

SJ Command: Silver Command & deputy. Bronze Sector commanders paired with LAS

Liaison: Multi-agency event liaison centre - SJ volunteer & paid event planning staff

SJ Communications: SJ radio network. Response crews on Govt Airwave (LAS) radio network

Health Command: LAS lead agency. Collaborative deployment with SJ

Other Health Resources:

Ambulance: teams

Other Providers: N/A

Medical Team: Mobile LAS doctor on-site. Some SJ doctors at Treatment Centres

Health Department: NHS trust oversight of LAS & all health operations

Local Hospitals: 18 surrounding hospitals, including specialist cardiac & stroke centres

Health Planning: LAS Silver coordinates LAS briefings & hospital teleconferences. SJ involved

Patients treated:

Total clinical: **681** Non-clinical / preventive:

Patient transports: __ **138** **#** to hospital by ambulance __ off-site by other means

In SJ MAT: **0** Overview: N/A

Key Features:

1. Gold (Strategic), Silver (Tactical), Bronze (Operational) command system used exclusively
2. Shared strategic objective to minimise event impact on local health resources, through:
   - all emergency "999" calls for event footprint diverted to event communications centre
   - no external LAS resources permitted within event area with LAS Silver permission
   - hospitals pre-notified of all incoming patients and destinations selected to distribute the load
   - on-site mobile LAS doctor available to review patients at Treatment Centres
3. Response and hospital transport responsibilities shared between SJ & LAS - this included SJ dispatch to 'normal business 999 calls' by LAS comms supervisor if closest available resource
4. Combined SJ & LAS off-site Silver Command at LAS event command centre (Bow)
5. Dedicated LAS comms team member communicates pt details to receiving hospital
6. SJ & LAS Silver Commanders attend SJ & LAS briefings in the week before the event
7. SJ & LAS Comms Supervisors have access to both agency Computer Aided Disptach systems
   - SJ provides details back to LAS for "999" calls responded to. Details entered into LAS CAD
   - Dedicated First Aid Agency desk with multiple workstations in LAS event command centre

8. Event Security a large concern at this event:
   - stabbings and gang violence common at this event every year
   - this year the event followed immediately after the London Riots
   - the event was almost cancelled. The event was closed down hours earlier than previously
   - there was less gang related violence this year, although many police at event & on standby
9. Medical Response Team (MRT)
   - allocated to 1 of 5 sectors. composed of 2 x LAS (paramedic, EMT) & 1 x SJ member
   - advanced clinical skills and also trained to work in crowd environment
   - Public Order team (with stab vests) rostered for evening (higher risk) shifts
   - patients with chest pain taken to Treatment Centre > 12 lead ECG > appropriate hospital
   - serious cases included a heroin overdose, a stabbing & a suicide (jump in front of train)
   - case load was tracked real-time for each MRT, aiding planning of rest breaks & stand-down
   - only medical officers credentialed by HEMS can RSI patients pre-hospital
     - focus is on getting patients into hospital and ambulances back out on the road
10. Cycle Response Units (CRU)
   - split crew: 1 x LAS, 1 x SJ member. morning & early afternoon only, then crowd too dense
11. Patient transport
   - patients carried on carry sheets for upto 500m due to crowd density & poor vehicle access
   - all SJ & LAS transport vehicles onsite utilised (SJ has non-emergency patient transport
12. Health Command
   - LAS lead agency & coordinated hosptial teleconference in week before the event
   - LAS & SJ Bronze Sector Commanders mobile within sectors & paired up for the day
     - Bronze Command responsible for trouble shooting within sector
     - LAS sector health command responsibilities
   - scheduled 2 hourly briefings, alternating Silver & Bronze command teams
     - fixed agenda, mobile network and Blackberry devices used with no network capacity issues
     - briefing included report on crowd density & behaviour (standardised reporting
     - [this scheduled command meeting idea was successful translated to Melb Cup Carnival]
   - LAS medical officer in Silver Command team for clinical input
13. Event Liaison
   - dedicated multi-agency liaison centre (ESOs, SJ, NHC staff, London Transport, local boroughs)
   - traditional difficulties regulating the parade - it tends to run itself on the day!
14. Crowd density & behaviour
   - crowd very well behaved this year. Police have CCTV of most of the event precinct
   - planned & reactive closure of Underground rail stations due to crowd crush
15. Fee for Service / Cost Recovery
   - emergency services & SJ not paid to attend for the day
   - NHS has budget allowance for LAS for NYE and NHC
   - SJ resources valued at 300,000 pounds, using normal fee for service model
   - SJ funds all SJ costs for this deployment.

Conclusions:

This event is an amazing undertaking. The health planning & execution was outstanding, with a truly integrated, collaborative and mutually dependent relationship clear between SJ & LAS. LAS had clear overall command & all Silver & Bronze command teams were staffed by a SJ & LAS pair.

The Gold / Silver / Bronze structure clearly tasks both specific tasks and strategic roles to command staff. It was very clear that this event was to be isolated and insulated from 'normal business' to reduce event impact on local hospitals and ambulance resources. Isolating all 999 calls, from event and normal business cases, worked really well. Watching SJ & LAS resources being dispatched interchangeably was impressive. Shared CAD access was very effective.

The hospital interface was very well managed. The teleconference in the week before the event gave hospitals a brief on the scope of the event and likely impact. Some hospitals have dedicated staff allocated to manage high volume event-related patients, although this was not a big issue this year. Pre-notifying hospitals of inbound patients (with name & diagnosis) allows much faster turnaround of ambulance resources and is part of normal business structures.

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

Notting Hill Carnival 2011 Main Map

METROPOLITAN POLICE
Working together for a safer London

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Arsenal FC Home Game **Dates(s):** 10/09/11

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)			
☐ Airshow	☐ EM / Exercise	☐ Music Festival	☐ National or International Event
☐ Marathon	☐ New Year	☐ Protest	☐ Est. attendance > 100,000

Event Type	Divisional		Regional		State	
Ceremonial	☐ Local (funeral, memorial…)		☐ Municipal	☐ State	☐ ANZAC Day	
Concert	☐ Local	☐ Children	☐ Stadium	☐ Large open-air		
Festival/parade	☐ School	☐ Local	☐ Municipal	☐ Fireworks	☐ Capital City	
Horse-related	☐ Club event	☐ Rodeo	☐ X-country	☐ Major carnival		
Motor sports	☐ Club event	☐ Motorbikes	☐ Moto-cross	☐ State comp	☐ Nat comp	
Sports	☐ Local	☐ Water	☐ Triathlon	1 Major carnival	☐ Endurance	

Event Details					
Duration	☐ < 4 hours	1 4 - 12 hours	☐ 12-24 hours	☐ 1-7 days	☐ > 7 days
Queuing	1 < 1 hour	☐ 1 - 2 hours	☐ 2 - 4 hours	☐ 4 - 12 hours	☐ > 12 hours
Time of day	1 Day	☐ Evening	☐ Shift start at / before 06:00		☐ Overnight
Residential	☐ Indoor (fixed)	☐ Indoor (temp)	☐ Camping	☐ SJ staff sleeping on-site	
Fatigue Risks	☐ > 10hr shift	☐ > 1hr travel	☐ > 12hr shift	☐ Overnight on-call	

Location (select all that apply with a "1")					
Precinct	1 Indoor	1 Secure site	☐ Outdoor	☐ Public Roads	☐ Remote
Venue	1 Stadium	☐ Temporary	☐ Airport	☐ No fixed outer boundary	

Patron Demographics (select all that apply with a "1")					
Age	1 Young Adult	1 Adult	1 Child	☐ Elderly	
Seating	1 Seating	☐ Marquee	1 Grandstand	☐ Standing	☐ "Mosh pit"
Groups	☐ Family	☐ Political	1 Rival groups	1 History of crowd violence	
Est. attendance	☐ < 1,000	☐ 1 - 4,999	☐ 5 - 14,999	☐ 15 - 50,000	1 > 50,000

Previous / Similar Event Experience (select best option only with a "1")					
Pt numbers	1 Low (<1%)	☐ Mid (1-2%)	☐ 1st event	☐ High (> 2%)	☐ Total > 200

Clinical & Logistics (select all that apply with a "1")					
Expected risks	1 Alcohol	☐ Cold	☐ Exercise	☐ Medical	☐ Drugs
		☐ Pt transport	☐ Heat	1 Dense crowd	1 Trauma
Nearest hospital	1 Tertiary		☐ Regional	☐ Local rural hospital	
Receiving hospital transport times		1 < 30min (road)		☐ > 30min (road)	☐ > 30min (air)
Comms coverage	☐ No mobile ph	☐ No SJ Network	☐ HF required	1 Comms assistance required	
Vehicle access	1 2WD (sealed)	☐ 2WD (dirt rd)	☐ 4WD required	☐ Water access	☐ Air retrieval

Column total:	A 10	B 4	C 3	D 4	E 2

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **42**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Arsenal FC Home Game** Event Date: **10/09/11**

Location: **Emirates Stadium, London UK** Duration: 6 hours

Attendance: **50,000+** Competitors: **22+** in addition to general attendance

Event Description: Arsenal Football Club Premier League home game. Opportunity to walk around the venue with Venue Medical Officer to see combination of doctors, LAS staff and SJ members at work. Crowd dominated (10:1) by Arsenal FC supporters due to limited 'away team' tickets.

St John Resources

Total number of St John members: _____ Number of First Aid Posts: _____

Bicycle Emergecy Response Team (BERTs): **0** Location: N/A

Mobile Health Emergency Response Team (HERTs): **4** Location: 2 teams upstairs, 2 downstairs

Patient transport: LAS & SJ patient transport vehicles contracted to be on-site

Medical Assistance Team (MAT): **0** Location(s): N/A

Command & Communications

SJ Command: SJ command team on-site

Liaison: Multi-agency EOC - SJ & LAS liaison officers

SJ Communications: Standalone SJ communications

Health Command: LAS Commander

Other Health Resources:

Ambulance: All LAS members have allocated roles (prepared for mass casualty incident)

Other Providers: On-site venue medical staff (pool of doctors share roster to cover season)

Medical Team: 4 teams of 2: 1 doctor working with 1 SJ member

Health Department: N/A

Local Hospitals: N/A

Health Planning: Standing venue operations plans for SJ, LAS & medical staff

Patients treated:

Total clinical: _____ Non-clinical / preventive: _____

Patient transports: **0** to SJ MAT ___ to hospital by ambulance ___ off-site by other means

In SJ MAT: **0** Overview: N/A

Key Features:

1. Dedicated LAS roles in preparation for mass casualty incident
2. Multi-agency health briefing at the beginning of the event (with powerpoint slides, projector)
3. SJ patient transport vehicles contracted to be on-site for all games
4. Venue employs 4 x medical officers for each event
5. Multi-agency venue operations centre
6. Visiting supporters isolated from home team supporters by locked gates to avoid crowd violence
7. Medical team response areas split venue - 2 upstairs, 2 downstairs. Deliberate overlap of response areas up/downstairs

Other Comments:

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Melbourne Marathon **Dates(s):** 9/10/11

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)			
[ ] Airshow	[ ] EM / Exercise	[ ] Music Festival	[1] National or International Event
[1] Marathon	[ ] New Year	[ ] Protest	[ ] Est. attendance > 100,000

Event Type	Divisional		Regional		State	
Ceremonial	[ ] Local (funeral, memorial…)		[ ] Municipal	[ ] State	[ ] ANZAC Day	
Concert	[ ] Local	[ ] Children	[ ] Stadium	[ ] Large open-air		
Festival/parade	[ ] School	[ ] Local	[ ] Municipal	[ ] Fireworks	[ ] Capital City	
Horse-related	[ ] Club event	[ ] Rodeo	[ ] X-country	[ ] Major carnival		
Motor sports	[ ] Club event	[ ] Motorbikes	[ ] Moto-cross	[ ] State comp	[ ] Nat comp	
Sports	[ ] Local	[ ] Water	[ ] Triathlon	[1] Major carnival	[1] Endurance	

Event Details					
Duration	[ ] < 4 hours	[1] 4 - 12 hours	[ ] 12-24 hours	[ ] 1-7 days	[ ] > 7 days
Queuing	[1] < 1 hour	[ ] 1 - 2 hours	[ ] 2 - 4 hours	[ ] 4 - 12 hours	[ ] > 12 hours
Time of day	[1] Day	[ ] Evening	[1] Shift start at / before 06:00		[ ] Overnight
Residential	[ ] Indoor (fixed)	[ ] Indoor (temp)	[ ] Camping	[ ] SJ staff sleeping on-site	
Fatigue Risks	[ ] > 10hr shift	[ ] > 1hr travel	[ ] > 12hr shift	[ ] Overnight on-call	

Location (select all that apply with a "1")					
Precinct	[ ] Indoor	[ ] Secure site	[1] Outdoor	[1] Public Roads	[ ] Remote
Venue	[ ] Stadium	[ ] Temporary	[ ] Airport	[1] No fixed outer boundary	

Patron Demographics (select all that apply with a "1")					
Age	[1] Young Adult	[1] Adult	[1] Child	[1] Elderly	
Seating	[ ] Seating	[ ] Marquee	[ ] Grandstand	[1] Standing	[ ] "Mosh pit"
Groups	[ ] Family	[ ] Political	[ ] Rival groups	[ ] History of crowd violence	
Est. attendance	[ ] < 1,000	[ ] 1 - 4,999	[ ] 5 - 14,999	[1] 15 - 50,000	[ ] > 50,000

Previous / Similar Event Experience (select best option only with a "1")					
Pt numbers	[1] Low (<1%)	[ ] Mid (1-2%)	[ ] 1st event	[ ] High (> 2%)	[ ] Total > 200

Clinical & Logistics (select all that apply with a "1")					
Expected risks	[ ] Alcohol	[ ] Cold	[1] Exercise	[1] Medical	[ ] Drugs
		[1] Pt transport	[ ] Heat	[ ] Dense crowd	[ ] Trauma
Nearest hospital	[1] Tertiary		[ ] Regional	[ ] Local rural hospital	
Receiving hospital transport times		[1] < 30min (road)		[ ] > 30min (road)	[ ] > 30min (air)
Comms coverage	[ ] No mobile ph	[ ] No SJ Network	[ ] HF required	[1] Comms assistance required	
Vehicle access	[1] 2WD (sealed)	[ ] 2WD (dirt rd)	[ ] 4WD required	[ ] Water access	[ ] Air retrieval

Column total:	A 6	B 4	C 4	D 8	E 1

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **67**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Melbourne Marathon** Event Date: **9/10/11**

Location: **Melbourne CBD - MCG, VIC** Duration: 10 hours

Attendance: **5,000** Competitors: **25,000** in addition to general attendance

Event Description: Running festival that includes full- & half-marathons, 10km & 5km runs, 3km walk and wheelchair events. The course run around central Melbourne, finishing at the MCG. Previous workload has been heavily dependent on the temperature.

St John Resources

Total number of St John members: **60** Number of First Aid Posts: **15**

Bicycle Emergecy Response Team (BERTs): **3** Location: On-course & finish line area

Mobile Health Emergency Response Team (HERTs): **3** Location: Mobile on-course

Patient transport: 1 x patient transport vehicle on-course (for use with ambulance approval)

Medical Assistance Team (MAT): **1** Location(s): Finish line (MCG)

Command & Communications

SJ Command: Off-site SJ commander, Sector Commander at MCG/Finish Line area

Liaison: Liaison officer in multi-agency operations centre

SJ Communications: SJ repeater network. Network control at State Office.

Health Command: Ambulance Victoria Health Commander, Event Medical Coordinator

Other Health Resources:

Ambulance: Triage paramedic & supervisor at MAT. 3 ALS crews + ICP on course

Other Providers: N/A

Medical Team: SJ Medical Assistance Team at finish line

Health Department: N/A

Local Hospitals: No active involvement in planning or on event day

Health Planning: Ambulance Victoria produce Health Event Management Plan

Patients treated:

Total clinical: **118** Non-clinical / preventive: **N/A**

Patient transports: __ to SJ MAT **2** to hospital by ambulance **?** off-site by other means

In SJ MAT: **69** __ Overview: predominantly exertion & dehydration

Key Features:

1. Large SJ MAT at Finish Line
2. SJ require ambulance Health Commander approval to transport patients on-course
3. SJ not authorised to transport patients from MAT to hospital
4. Health Commander & Ambulance Commander are distinctly different roles
5. SJ strategic objective - extended patient care capacity, reduce off-site ambulance transports
6. Integrated SJ service delivery: first aid - SJ paramedics - MAT
7. Health Commander & Ambulance Commander are distinctly different roles - HC focuses on command of all health resources (first aid, ambulance, medical teams(
8. 2 ambulance transports to hospital from the course that did not come through the MAT

Other Comments:

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Melbourne Cup Carnival **Dates(s):** 29/10 & 1,3,5/11/11

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)			
☐ Airshow	☐ EM / Exercise	☐ Music Festival	1 National or International Event
☐ Marathon	☐ New Year	☐ Protest	1 Est. attendance > 100,000

Event Type	Divisional		Regional	State	
Ceremonial	☐ Local (funeral, memorial…)		☐ Municipal	☐ State	☐ ANZAC Day
Concert	☐ Local	☐ Children	☐ Stadium	☐ Large open-air	
Festival/parade	☐ School	☐ Local	☐ Municipal	☐ Fireworks	☐ Capital City
Horse-related	☐ Club event	☐ Rodeo	☐ X-country	1 Major carnival	
Motor sports	☐ Club event	☐ Motorbikes	☐ Moto-cross	☐ State comp	☐ Nat comp
Sports	☐ Local	☐ Water	☐ Triathlon	☐ Major carnival	☐ Endurance

Event Details					
Duration	☐ < 4 hours	☐ 4 - 12 hours	☐ 12-24 hours	1 1-7 days	☐ > 7 days
Queuing	☐ < 1 hour	1 1 - 2 hours	☐ 2 - 4 hours	☐ 4 - 12 hours	☐ > 12 hours
Time of day	1 Day	☐ Evening	☐ Shift start at / before 06:00		☐ Overnight
Residential	☐ Indoor (fixed)	☐ Indoor (temp)	☐ Camping	☐ SJ staff sleeping on-site	
Fatigue Risks	1 > 10hr shift	☐ > 1hr travel	☐ > 12hr shift	☐ Overnight on-call	

Location (select all that apply with a "1")					
Precinct	☐ Indoor	1 Secure site	1 Outdoor	☐ Public Roads	☐ Remote
Venue	1 Stadium	☐ Temporary	☐ Airport	☐ No fixed outer boundary	

Patron Demographics (select all that apply with a "1")					
Age	1 Young Adult	1 Adult	☐ Child	1 Elderly	
Seating	1 Seating	☐ Marquee	1 Grandstand	1 Standing	☐ "Mosh pit"
Groups	☐ Family	☐ Political	☐ Rival groups	☐ History of crowd violence	
Est. attendance	☐ < 1,000	☐ 1 - 4,999	☐ 5 - 14,999	☐ 15 - 50,000	1 > 50,000

Previous / Similar Event Experience (select best option only with a "1")					
Pt numbers	1 Low (<1%)	☐ Mid (1-2%)	☐ 1st event	☐ High (> 2%)	1 Total > 200

Clinical & Logistics (select all that apply with a "1")					
Expected risks	1 Alcohol	☐ Cold	☐ Exercise	1 Medical	☐ Drugs
		☐ Pt transport	1 Heat	1 Dense crowd	☐ Trauma
Nearest hospital	1 Tertiary		☐ Regional	☐ Local rural hospital	
Receiving hospital transport times	1 < 30min (road)			☐ > 30min (road)	☐ > 30min (air)
Comms coverage	☐ No mobile ph	☐ No SJ Network	☐ HF required	1 Comms assistance required	
Vehicle access	1 2WD (sealed)	☐ 2WD (dirt rd)	☐ 4WD required	☐ Water access	☐ Air retrieval

Column total:	A 9	B 4	C 3	D 7	E 2

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **70**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Melbourne Cup Carnival** Event Date: **29/10-5/11**

Location: **Flemington Racecourse, VIC** Duration: 4 days

Attendance: **400,000** Competitors: **N/A** in addition to general attendance

Event Description: 4 day horse racing carnival held at Flemington Racecourse in Melbourne as part of the Spring Racing Carnival. Crowds are between 70-110,000 each day. Patient presentations are often heat and/or alcohol related, with numbers dependent on weather. Integrated ambulance & SJ deployment.

St John Resources

Total number of St John members: **60/day** Number of First Aid Posts: **5**

Bicycle Emergecy Response Team (BERTs): **2** Location: Carpark & around venue

Mobile Health Emergency Response Team (HERTs): **1** Location: West side of grandstand

Patient transport: 2 x SJ patient transport buggies on-site

Medical Assistance Team (MAT): **1** Location(s): Members' carpark (Emergency Svc Compound)

Command & Communications

SJ Command: SJ Command team on-site

Liaison: SJ liaison officer in multi-agency venue command centre

SJ Communications: SJ communications vehicle on-site. Base radio located on grandstand

Health Command: Health Incident Management Team established. AV Health Commander

Other Health Resources:

Ambulance: Command team, approx 20 paramedics (triage, FA posts, bikes, buggy)

Other Providers: Medical staff on-site for jockeys. Function independently of SJ & ambulance

Medical Team: SJ MAT in emergency services compound. AV paramedics in welfare shelter

Health Department: N/A

Local Hospitals: No active involvement

Health Planning: Ambulance produce Health Event Management Plan

Patients treated:

Total clinical: **416** Non-clinical / preventive: **N/A**

Patient transports: __ to SJ MAT **7** to hospital by ambulance **?** off-site by other means

In SJ MAT: **87** __ Overview: ~ 30/day. Mainly alcohol / heat-related presentations

Key Features:

1. Integrated health service delivery model - AV & SJ: first aid - paramedic - medical team
2. Ambulance welfare shelters used (exercising emergency resp / primary care clinic equipment)
3. Structured patient flow: dispatch - retrieval - triage - medical team -welfare/recovery -
4. Health Incident Management Team (SHERP model) - scheduled briefing trial (model from NHC)
5. AV-SJ combined crews on SJ pt transport buggies - AV staff required for transport on reg. roads
6. AV event crews preferably stay on-site. External vehicles called in to transport patients off-site
7. Emergency from within the Flemington Racecourse area are dispatched to closest available resources. Emergency health-related calls into event switchboard transferred to 000 system
8. Crowd density & venue layout create inherent difficulties locating & extricating patients.
9. Crowd convergence at train station obstructs cross-venue patient transport

Other Comments:

The 'welfare shelter' provides capacity for low acuity patients to recover from alcohol, dehydration, heat and other minor complaints. Offsite transport is coordinated by ambulance. SJ pt documentation is used throughout although this is a problem for AV paramedics assisting in the MAT / welfare shelter that are required to record their management on AV documentation.

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Schoolies Festival **Dates(s):** 18-21/11/11

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)			
[ ] Airshow	[ ] EM / Exercise	[1] Music Festival	[ ] National or International Event
[ ] Marathon	[ ] New Year	[ ] Protest	[ ] Est. attendance > 100,000

Event Type	Divisional		Regional	State	
Ceremonial	[ ] Local (funeral, memorial…)		[ ] Municipal	[ ] State	[ ] ANZAC Day
Concert	[ ] Local	[ ] Children	[ ] Stadium	[1] Large open-air	
Festival/parade	[ ] School	[1] Local	[ ] Municipal	[ ] Fireworks	[ ] Capital City
Horse-related	[ ] Club event	[ ] Rodeo	[ ] X-country	[ ] Major carnival	
Motor sports	[ ] Club event	[ ] Motorbikes	[ ] Moto-cross	[ ] State comp	[ ] Nat comp
Sports	[ ] Local	[ ] Water	[ ] Triathlon	[ ] Major carnival	[ ] Endurance

Event Details					
Duration	[ ] < 4 hours	[ ] 4 - 12 hours	[ ] 12-24 hours	[1] 1-7 days	[ ] > 7 days
Queuing	[1] < 1 hour	[ ] 1 - 2 hours	[ ] 2 - 4 hours	[ ] 4 - 12 hours	[ ] > 12 hours
Time of day	[1] Day	[1] Evening	[ ] Shift start at / before 06:00		[1] Overnight
Residential	[ ] Indoor (fixed)	[ ] Indoor (temp)	[1] Camping	[1] SJ staff sleeping on-site	
Fatigue Risks	[1] > 10hr shift	[1] > 1hr travel	[1] > 12hr shift	[ ] Overnight on-call	

Location (select all that apply with a "1")					
Precinct	[ ] Indoor	[ ] Secure site	[1] Outdoor	[ ] Public Roads	[1] Remote
Venue	[ ] Stadium	[1] Temporary	[ ] Airport	[1] No fixed outer boundary	

Patron Demographics (select all that apply with a "1")					
Age	[1] Young Adult	[1] Adult	[ ] Child	[ ] Elderly	
Seating	[ ] Seating	[1] Marquee	[ ] Grandstand	[1] Standing	[ ] "Mosh pit"
Groups	[ ] Family	[ ] Political	[ ] Rival groups	[ ] History of crowd violence	
Est. attendance	[ ] < 1,000	[ ] 1 - 4,999	[ ] 5 - 14,999	[1] 15 - 50,000	[ ] > 50,000

Previous / Similar Event Experience (select best option only with a "1")					
Pt numbers	[1] Low (<1%)	[ ] Mid (1-2%)	[ ] 1st event	[ ] High (> 2%)	[1] Total > 200

Clinical & Logistics (select all that apply with a "1")					
Expected risks	[1] Alcohol	[ ] Cold	[ ] Exercise	[ ] Medical	[1] Drugs
		[1] Pt transport	[ ] Heat	[ ] Dense crowd	[ ] Trauma
Nearest hospital	[ ] Tertiary		[ ] Regional	[1] Local rural hospital	
Receiving hospital transport times		[ ] < 30min (road)		[1] > 30min (road)	[1] > 30min (air)
Comms coverage	[ ] No mobile ph	[ ] No SJ Network	[ ] HF required	[1] Comms assistance required	
Vehicle access	[1] 2WD (sealed)	[ ] 2WD (dirt rd)	[ ] 4WD required	[ ] Water access	[ ] Air retrieval

Column total:	A 7	B 7	C 3	D 9	E 5

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **82**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Schoolies Festival** Event Date: **18-21/11/1**

Location: **Victor Harbour, SA** Duration: 4 days

Attendance: **20,000** Competitors: **N/A** in addition to general attendance

Event Description: Schoolies' week celebrations in Victor Harbour - 80km south of Adelaide, with resident population approx. 10,000. SJ provides first aid cover at 3 campgrounds 24 hours a day for 4 days. SJ establishes treatment centre on the foreshore to treat patients from the carnival.

St John Resources

Total number of St John members: **40** Number of First Aid Posts: **4**

Bicycle Emergecy Response Team (BERTs): **0** Location: N/A

Mobile Health Emergency Response Team (HERTs): **2** Location: Mobile in SJ vehicles

Patient transport: 2 x SJ patient transport (PTS) vehicles

Medical Assistance Team (MAT): **1** Location(s): Festival First Aid Post on the Foreshore

Command & Communications

SJ Command: SJ commander located at Festival First Aid Post

Liaison: No event operations centre. No established event organiser team at event

SJ Communications: SJ UHF comms & CAD from comms vehicle on foreshore. GRN for vehicles

Health Command: SAAS and SJ command teams command own resources

Other Health Resources:

Ambulance: Additional SAAS resources, including command vehicle in Victor Harbour

Other Providers: Local health service, drug counselling services on-site

Medical Team: SJ medical tent established on foreshore (operational PM to early morning)

Health Department: No active involvement. Some financial assistance with medical team costs

Local Hospitals: South Coast District Hospital (38 beds, GP cover with locums overnight)

Health Planning: SJ work with SAAS to develop health plan

Patients treated:

Total clinical: _____ Non-clinical / preventive: _____

Patient transports: ___ to SJ MAT ___ to hospital by ambulance ___ off-site by other means

In SJ MAT: ___ Overview: predominantly drug & alcohol related presentations

Key Features:

1. Registered nurses credentialed for independent practice (national SJ CPGs)
2. SJ authorised to transport patients on registered roads
3. Limited local hospital bed capacity (town population tripples for the weekend)
4. No formal organising committee - therefore no fee for service or event operations centre
5. SJ crews at campsites sleep in cabins overnight
6. SJ members working the main shift (PM-early morning) sleep at nearby campsite
7. SJ & SAAS transport crews transport patients to SJ treatment centre on the foreshore, especially when local hospital capacity exceeded

Other Comments:

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Foreshore Festival **Dates(s):** 26/11/11

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)			
[ ] Airshow	[ ] EM / Exercise	[1] Music Festival	[ ] National or International Event
[ ] Marathon	[ ] New Year	[ ] Protest	[ ] Est. attendance > 100,000

Event Type	Divisional		Regional	State	
Ceremonial	[ ] Local (funeral, memorial…)		[ ] Municipal	[ ] State	[ ] ANZAC Day
Concert	[ ] Local	[ ] Children	[ ] Stadium	[1] Large open-air	
Festival/parade	[ ] School	[ ] Local	[ ] Municipal	[ ] Fireworks	[ ] Capital City
Horse-related	[ ] Club event	[ ] Rodeo	[ ] X-country	[ ] Major carnival	
Motor sports	[ ] Club event	[ ] Motorbikes	[ ] Moto-cross	[ ] State comp	[ ] Nat comp
Sports	[ ] Local	[ ] Water	[ ] Triathlon	[ ] Major carnival	[ ] Endurance

Event Details					
Duration	[ ] < 4 hours	[1] 4 - 12 hours	[1] 12-24 hours	[ ] 1-7 days	[ ] > 7 days
Queuing	[ ] < 1 hour	[1] 1 - 2 hours	[ ] 2 - 4 hours	[ ] 4 - 12 hours	[ ] > 12 hours
Time of day	[1] Day	[1] Evening	[ ] Shift start at / before 06:00		[ ] Overnight
Residential	[ ] Indoor (fixed)	[ ] Indoor (temp)	[ ] Camping	[ ] SJ staff sleeping on-site	
Fatigue Risks	[1] > 10hr shift	[ ] > 1hr travel	[ ] > 12hr shift	[ ] Overnight on-call	

Location (select all that apply with a "1")					
Precinct	[ ] Indoor	[1] Secure site	[1] Outdoor	[ ] Public Roads	[ ] Remote
Venue	[ ] Stadium	[1] Temporary	[ ] Airport	[ ] No fixed outer boundary	

Patron Demographics (select all that apply with a "1")					
Age	[1] Young Adult	[1] Adult	[ ] Child	[ ] Elderly	
Seating	[ ] Seating	[1] Marquee	[ ] Grandstand	[1] Standing	[1] "Mosh pit"
Groups	[ ] Family	[ ] Political	[ ] Rival groups	[ ] History of crowd violence	
Est. attendance	[ ] < 1,000	[ ] 1 - 4,999	[ ] 5 - 14,999	[1] 15 - 50,000	[ ] > 50,000

Previous / Similar Event Experience (select best option only with a "1")					
Pt numbers	[1] Low (<1%)	[ ] Mid (1-2%)	[ ] 1st event	[ ] High (> 2%)	[1] Total > 200

Clinical & Logistics (select all that apply with a "1")					
Expected risks	[1] Alcohol	[ ] Cold	[ ] Exercise	[ ] Medical	[1] Drugs
		[ ] Pt transport	[ ] Heat	[1] Dense crowd	[ ] Trauma
Nearest hospital	[1] Tertiary		[ ] Regional	[ ] Local rural hospital	
Receiving hospital transport times	[1] < 30min (road)			[ ] > 30min (road)	[ ] > 30min (air)
Comms coverage	[ ] No mobile ph	[ ] No SJ Network	[ ] HF required	[1] Comms assistance required	
Vehicle access	[1] 2WD (sealed)	[ ] 2WD (dirt rd)	[ ] 4WD required	[ ] Water access	[ ] Air retrieval

Column total:	A 7	B 8	C 2	D 5	E 3

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **59**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Foreshore Festival** Event Date: **26/11/11**

Location: **Parliamentary Triangle, Canberra ACT** Duration: 12 hours

Attendance: **20,000** Competitors: **N/A** in addition to general attendance

Event Description: Single day, multiple stage music festival held on the east & west gardens in front of Old Parliament House in Canberra. Heavy rain the night before and later in the event, but otherwise warm and sunny throughout the day.

St John Resources

Total number of St John members: **31** Number of First Aid Posts: **2**

Bicycle Emergecy Response Team (BERTs): **0** Location: N/A

Mobile Health Emergency Response Team (HERTs): **0** Location: N/A

Patient transport: No SJ patient transport capacity

Medical Assistance Team (MAT): **0** Location(s): N/A

Command & Communications

SJ Command: SJ Commander mobile around the site.

Liaison: No multi-agency EOC established. Liaison by mobile phone or ACTAS radio

SJ Communications: Fixed radio network control unit, using SJ call-taking and dispatch forms

Health Command: ACTAS lead health agency

Other Health Resources:

Ambulance: On-site ambulance commander, paramedics & vehicles.

Other Providers: Red Cross "Save A Mate" - located in front of SJ first aid posts

Medical Team: N/A

Health Department: N/A

Local Hospitals: N/A

Health Planning: Collaborative and complimentary health planning between SJ & ACTAS

Patients treated:

Total clinical: **202** Non-clinical / preventive: **(Red Cross)**

Patient transports: **0** to SJ MAT **6** to hospital by ambulance **0** off-site by other means

In SJ MAT: **0** Overview: N/A

Key Features:

1. SJ working with but subordinate to ACTAS
2. ACTAS paramedics staff advanced on-site - mobile & in dedicated room behind first aid posts
3. Permission required from ACTAS for SJ medical officer to attend in clinical capacity
4. No tracking of "non-clinical / preventive services" - this was done by "Save A Mate" staff
5. No established multi-agency command or liaison facility
6. No formal operational command interaction between Red Cross and SJ first aid providers
7. Event "No Fluids / Medications" policy - all bags checked on entry. SJ nurse signed in any non-life saving medications that could be collected later. All other fluids / medications thrown out
8. Free sunscreen provided to all patrons (Cancer Council SunSmart tent)

Other Comments:

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Meredith Music Festival **Dates(s):** 9-11/12/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)			
☐ Airshow	☐ EM / Exercise	1 Music Festival	☐ National or International Event
☐ Marathon	☐ New Year	☐ Protest	☐ Est. attendance > 100,000

Event Type	Divisional		Regional		State	
Ceremonial	☐ Local (funeral, memorial…)		☐ Municipal	☐ State	☐ ANZAC Day	
Concert	☐ Local	☐ Children	☐ Stadium	1 Large open-air		
Festival/parade	☐ School	☐ Local	☐ Municipal	☐ Fireworks	☐ Capital City	
Horse-related	☐ Club event	☐ Rodeo	☐ X-country	☐ Major carnival		
Motor sports	☐ Club event	☐ Motorbikes	☐ Moto-cross	☐ State comp	☐ Nat comp	
Sports	☐ Local	☐ Water	☐ Triathlon	☐ Major carnival	☐ Endurance	

Event Details					
Duration	☐ < 4 hours	☐ 4 - 12 hours	☐ 12-24 hours	1 1-7 days	☐ > 7 days
Queuing	☐ < 1 hour	1 1 - 2 hours	☐ 2 - 4 hours	☐ 4 - 12 hours	☐ > 12 hours
Time of day	1 Day	1 Evening	☐ Shift start at / before 06:00		1 Overnight
Residential	☐ Indoor (fixed)	☐ Indoor (temp)	1 Camping	1 SJ staff sleeping on-site	
Fatigue Risks	1 > 10hr shift	1 > 1hr travel	1 > 12hr shift	☐ Overnight on-call	

Location (select all that apply with a "1")					
Precinct	☐ Indoor	1 Secure site	1 Outdoor	☐ Public Roads	1 Remote
Venue	☐ Stadium	1 Temporary	☐ Airport	☐ No fixed outer boundary	

Patron Demographics (select all that apply with a "1")					
Age	1 Young Adult	1 Adult	☐ Child	☐ Elderly	
Seating	1 Seating	☐ Marquee	☐ Grandstand	1 Standing	☐ "Mosh pit"
Groups	☐ Family	☐ Political	☐ Rival groups	☐ History of crowd violence	
Est. attendance	☐ < 1,000	☐ 1 - 4,999	☐ 5 - 14,999	1 15 - 50,000	☐ > 50,000

Previous / Similar Event Experience (select best option only with a "1")					
Pt numbers	1 Low (<1%)	☐ Mid (1-2%)	☐ 1st event	☐ High (> 2%)	1 Total > 200

Clinical & Logistics (select all that apply with a "1")					
Expected risks	1 Alcohol	1 Cold	☐ Exercise	1 Medical	☐ Drugs
		1 Pt transport	☐ Heat	☐ Dense crowd	☐ Trauma
Nearest hospital	☐ Tertiary		1 Regional	☐ Local rural hospital	
Receiving hospital transport times		☐ < 30min (road)		1 > 30min (road)	1 > 30min (air)
Comms coverage	☐ No mobile ph	1 No SJ Network	☐ HF required	1 Comms assistance required	
Vehicle access	☐ 2WD (sealed)	1 2WD (dirt rd)	1 4WD required	☐ Water access	☐ Air retrieval

Column total:	A 6	B 10	C 5	D 8	E 4

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **80**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Meredith Music Festival** Event Date: **9-11/12/12**

Location: **Meredith Supernatural Amphitheatre,VI** Duration: 3 days

Attendance: **15,000** Competitors: _____ in addition to general attendance

Event Description: Residential single-stage music festival on private farmland approx 90min drive from Melbourne & 1 hr drive to either Geelong or Ballarat Regional Hospitals. Traditionally well behaved crowd. 24 hr staffing with first aid & paramedics. Medical team for peak times.

St John Resources

Total number of St John members: **40** Number of First Aid Posts: **1**

Bicycle Emergecy Response Team (BERTs): **0** Location: N/A

Mobile Health Emergency Response Team (HERTs): **0** Location: N/A

Patient transport: 2 x SJ patient transport vehicles (incl 1 x 4WD vehicle)

Medical Assistance Team (MAT): **1** Location(s): Central Medical Centre (14:00-02:00 only)

Command & Communications

SJ Command: SJ commander rostered to day and night shift

Liaison: Event organiser appoints medical liaison officer. Event Command Centre

SJ Communications: On-site SJ communications & computer-aided dispatch (CAD)

Health Command: No dedicated health commander.

Other Health Resources:

Ambulance: 02:00

Other Providers: N/A

Medical Team: SJ medical team for peak period (14:00 - 02:00)

Health Department: N/A

Local Hospitals: No active involvement.

Health Planning: Ambulance produce Health Event Management Plan. Multi-agency meetings

Patients treated:

Total clinical: **301** Non-clinical / preventive: **N/A**

Patient transports: ___ to SJ MAT **5** to hospital by ambulance ___ off-site by other means

In SJ MAT: **60** ___ Overview: Minor injuries, medical complaints, alcohol/drug affected pts

Key Features:

1. Event organisers very community-minded & interested in reducing event impact on community
2. SJ primary on-site patient transporter - SJ provides only 4WD pt transport vehicle
3. AV paramedics work from SJ medical team resources when medical team not on-site
4. Dedicated helicopter landing site for critically unwell patients
5. First Aid Post - Medical Team co-located in the same facility
6. Strategic objective to reduce ambulance transports - shared by organisers, SJ & ambulance
7. Extended patient care capacity enables ambulance crews to wait for change of shift to transport non-urgent patients off-site to hospital
8. Event ambulance crew preferably hand over transports to external ambulance crews
9. Event organisers have progressively increased capacity & improved facilities over last 2 years

Other Comments:

Medical Team only operational for peak hours (1400 - 0300) - non-urgent cases presenting outside these hours held in first aid post or return for assessment / management by medical team

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Brisbane CBD NYE **Dates(s):** 31/12/11

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)			
☐ Airshow	☐ EM / Exercise	☐ Music Festival	☐ National or International Event
☐ Marathon	1 New Year	☐ Protest	1 Est. attendance > 100,000

Event Type	Divisional		Regional	State	
Ceremonial	☐ Local (funeral, memorial…)		☐ Municipal	☐ State	☐ ANZAC Day
Concert	☐ Local	☐ Children	☐ Stadium	☐ Large open-air	
Festival/parade	☐ School	☐ Local	☐ Municipal	1 Fireworks	1 Capital City
Horse-related	☐ Club event	☐ Rodeo	☐ X-country	☐ Major carnival	
Motor sports	☐ Club event	☐ Motorbikes	☐ Moto-cross	☐ State comp	☐ Nat comp
Sports	☐ Local	☐ Water	☐ Triathlon	☐ Major carnival	☐ Endurance

Event Details					
Duration	☐ < 4 hours	1 4 - 12 hours	☐ 12-24 hours	☐ 1-7 days	☐ > 7 days
Queuing	1 < 1 hour	☐ 1 - 2 hours	☐ 2 - 4 hours	☐ 4 - 12 hours	☐ > 12 hours
Time of day	☐ Day	1 Evening	☐ Shift start at / before 06:00		1 Overnight
Residential	☐ Indoor (fixed)	☐ Indoor (temp)	☐ Camping	☐ SJ staff sleeping on-site	
Fatigue Risks	1 > 10hr shift	☐ > 1hr travel	☐ > 12hr shift	☐ Overnight on-call	

Location (select all that apply with a "1")					
Precinct	☐ Indoor	☐ Secure site	1 Outdoor	1 Public Roads	☐ Remote
Venue	☐ Stadium	☐ Temporary	☐ Airport	1 No fixed outer boundary	

Patron Demographics (select all that apply with a "1")					
Age	1 Young Adult	1 Adult	1 Child	1 Elderly	
Seating	☐ Seating	☐ Marquee	☐ Grandstand	1 Standing	☐ "Mosh pit"
Groups	1 Family	☐ Political	☐ Rival groups	1 History of crowd violence	
Est. attendance	☐ < 1,000	☐ 1 - 4,999	☐ 5 - 14,999	1 15 - 50,000	☐ > 50,000

Previous / Similar Event Experience (select best option only with a "1")					
Pt numbers	1 Low (<1%)	☐ Mid (1-2%)	☐ 1st event	☐ High (> 2%)	1 Total > 200

Clinical & Logistics (select all that apply with a "1")					
Expected risks	1 Alcohol	☐ Cold	☐ Exercise	1 Medical	1 Drugs
		☐ Pt transport	☐ Heat	1 Dense crowd	☐ Trauma
Nearest hospital	1 Tertiary		☐ Regional	☐ Local rural hospital	
Receiving hospital transport times	1 < 30min (road)			☐ > 30min (road)	☐ > 30min (air)
Comms coverage	☐ No mobile ph	☐ No SJ Network	☐ HF required	1 Comms assistance required	
Vehicle access	1 2WD (sealed)	☐ 2WD (dirt rd)	☐ 4WD required	☐ Water access	☐ Air retrieval

Column total:	A 8	B 4	C 2	D 10	E 4

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **86**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name	**Brisbane CBD NYE**	Event Date:	**31/12/11**
Location	**Brisbane CBD - Valley Mall**	Duration:	6 hours
Attendance	**30,000** Competitors: **N/A**	in addition to general attendance	
Event Description	St John were engaged by QAS to provide a treatment centre (in an empty shop in the Mall) for intoxicated people in Brisbane CBD from 23:00 to 05:00 as part of the Queensland Police Drink Safe program. St John did not provide first aid coverage to the fireworks display and other CBD activities		

St John Resources

Total number of St John members: **10** Number of First Aid Posts: **1**

Bicycle Emergecy Response Team (BERTs): **0** Location: N/A

Mobile Health Emergency Response Team (HERTs): **0** Location: N/A

Patient transport: nil

Medical Assistance Team (MAT): **1** Location(s): Valley Mall, although no SJ doctor on site

Command & Communications

SJ Command:	SJ Commander located in Treatment Centre. Standalone operation
Liaison:	Direct with QAS on-site
SJ Communications:	N/A
Health Command:	QAS Area Manager on-site in Treatment Centre

Other Health Resources:

Ambulance:	1 x Area Manager, 1 x ICP, 1 x senior paramedic, 6 x ambulance crews
Other Providers:	Another provider staffed a 2nd treatment centre that closed before midnight
Medical Team:	N/A
Health Department:	N/A
Local Hospitals:	Aware but not involved.
Health Planning:	QAS partnership with St John. No formal health plan issued.

Patients treated:

Total clinical: **45** Non-clinical / preventive: **N/A**

Patient transports: **4** to SJ MAT **1** to hospital by ambulance **0** off-site by other means

In SJ MAT: **#** Overview: Predominantly alcohol intoxicated

Key Features:

1. SJ engaged in part due to independent scope of practice and capacity to discharge patients
2. QAS transported 4 patients from 000 calls into Treatment Centre
3. SJ crew: 3 x RNs, 2 x paramedics, 5 x Advanced Responders
4. QAS Medical Officer available and on duty in Brisbane CBD if required
5. Treatment Centre supplies provided by QAS and supplemented by SJ
6. All 6 QAS ambulance crews allocated to the Treatment Centre were re-tasked within the CBD
7. SJ crews were dispatched to 000 calls by QAS Area Manager from Treatment Centre - crews responded within 1km radius, including into Night Clubs
8. Anecdotal reports that Royal Brisbane not on bypass on NYE for first time in a long time!

Other Comments:

This event is profiled but was not attended as part of the project travel schedule due to clashes with other events.

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Pyramid Rock Music Festival **Dates(s):** 29/12/11 - 01/01/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)			
[ ] Airshow	[ ] EM / Exercise	[1] Music Festival	[ ] National or International Event
[ ] Marathon	[1] New Year	[ ] Protest	[ ] Est. attendance > 100,000

Event Type	Divisional		Regional		State	
Ceremonial	[ ] Local (funeral, memorial…)		[ ] Municipal	[ ] State	[ ] ANZAC Day	
Concert	[ ] Local	[ ] Children	[ ] Stadium	[1] Large open-air		
Festival/parade	[ ] School	[ ] Local	[ ] Municipal	[ ] Fireworks	[ ] Capital City	
Horse-related	[ ] Club event	[ ] Rodeo	[ ] X-country	[ ] Major carnival		
Motor sports	[ ] Club event	[ ] Motorbikes	[ ] Moto-cross	[ ] State comp	[ ] Nat comp	
Sports	[ ] Local	[ ] Water	[ ] Triathlon	[ ] Major carnival	[ ] Endurance	

Event Details					
Duration	[ ] < 4 hours	[ ] 4 - 12 hours	[ ] 12-24 hours	[1] 1-7 days	[ ] > 7 days
Queuing	[ ] < 1 hour	[1] 1 - 2 hours	[ ] 2 - 4 hours	[ ] 4 - 12 hours	[ ] > 12 hours
Time of day	[1] Day	[1] Evening	[ ] Shift start at / before 06:00		[1] Overnight
Residential	[ ] Indoor (fixed)	[ ] Indoor (temp)	[1] Camping	[ ] SJ staff sleeping on-site	
Fatigue Risks	[1] > 10hr shift	[1] > 1hr travel	[1] > 12hr shift	[ ] Overnight on-call	

Location (select all that apply with a "1")					
Precinct	[ ] Indoor	[1] Secure site	[1] Outdoor	[ ] Public Roads	[1] Remote
Venue	[ ] Stadium	[1] Temporary	[ ] Airport	[ ] No fixed outer boundary	

Patron Demographics (select all that apply with a "1")					
Age	[1] Young Adult	[1] Adult	[ ] Child	[ ] Elderly	
Seating	[ ] Seating	[1] Marquee	[ ] Grandstand	[1] Standing	[1] "Mosh pit"
Groups	[ ] Family	[ ] Political	[ ] Rival groups	[ ] History of crowd violence	
Est. attendance	[ ] < 1,000	[ ] 1 - 4,999	[ ] 5 - 14,999	[1] 15 - 50,000	[ ] > 50,000

Previous / Similar Event Experience (select best option only with a "1")					
Pt numbers	[ ] Low (<1%)	[1] Mid (1-2%)	[ ] 1st event	[ ] High (> 2%)	[1] Total > 200

Clinical & Logistics (select all that apply with a "1")					
Expected risks	[1] Alcohol	[1] Cold	[ ] Exercise	[1] Medical	[1] Drugs
		[1] Pt transport	[1] Heat	[ ] Dense crowd	[ ] Trauma
Nearest hospital	[ ] Tertiary		[ ] Regional	[1] Local rural hospital	
Receiving hospital transport times		[ ] < 30min (road)		[1] > 30min (road)	[1] > 30min (air)
Comms coverage	[ ] No mobile ph	[ ] No SJ Network	[ ] HF required	[1] Comms assistance required	
Vehicle access	[ ] 2WD (sealed)	[1] 2WD (dirt rd)	[ ] 4WD required	[ ] Water access	[ ] Air retrieval

Column total:	A 4	B 11	C 4	D 8	E 6

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **97**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name	**Pyramid Rock Music Festival**	Event Date:	**29/12-1/1**
Location	**Pyramid Rock, Phillip Island, VIC**	Duration:	3 days
Attendance	**15,000** Competitors: **N/A**	in addition to general attendance	
Event Description	Residential 24/7 live music festival on Phillip Island over the New Year period. Patrons are generally young adults who camp in tents in the carpark. This event traditionally generates large numbers of patients. Some are significantly unwell & require air or 90 min road transport to hospital.		

St John Resources

Total number of St John members: **30** Number of First Aid Posts: **1**

Bicycle Emergecy Response Team (BERTs): **0** Location: N/A

Mobile Health Emergency Response Team (HERTs): **1** Location: 1 crew on-site 24/7

Patient transport: 3 x SJ transport vehicles & 2 x ambulance transport vehicles on-site

Medical Assistance Team (MAT): **1** Location(s): Central First Aid / MAT post

Command & Communications

SJ Command:	Event Mentor & Commander. Commander or Deputy on each shift
Liaison:	Event radio network. All emergency services co-located in single compound
SJ Communications:	Dedicated comms room with CAD on each shift. Local repeater + simplex
Health Command:	Ambulance Victoria Health Commander on-site all shifts

Other Health Resources:

Ambulance:	Ambulance Commander & 2 x ALS paramedics crews + vehicles on-site
Other Providers:	N/A
Medical Team:	St John Medical Assistance Team (12 beds)
Health Department:	No active involvement
Local Hospitals:	Local (Cowes) hospital not equipped for emergencies A/H. Closest hospital
Health Planning:	Health Emergency Management Plan prepared (AV). SJ & AV ops orders

Patients treated:

Total clinical: **732** Non-clinical / preventive: **N/A**

Patient transports: __ to SJ MAT **4** to hospital by ambulance __ off-site by other means

In SJ MAT: **87** __ Overview: heat & alcohol affected pts, minor wounds & medical complaints

Key Features:

1. Phillip Island population increases by approx 100,000 over the Christmas / NY period
2. Minimal compensatory increase in local health resources. This event adds 10,000+ people
3. Local hospital (Cowes) not equipped for emergencies and not open A/H
4. Closest (rural) hospital in Wonthaggi (40kms away).
5. All significant trauma / medical patients transported to Melbourne (air or 3 hr road round-trip)
6. Integrated SJ & ambulance response model, with paramedics assisting in MAT as required
7. Collaborative effort between SJ & local ambulance crews to reduce the impact of the event on local health resources (especially off-site ambulance transports)
8. SJ MAT significantly increases the acuity & scope of medical practice above normal for Phillip Is
9. SJ deliberately allocated additional transport vehicles to assist with off-site transport as req

Other Comments:

Medical Assistance Team operational 1400 - 0300 (or until demand reduces). HERT crews & AV onsite at other times. Medical team on-call as required out of hours given residential event.

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Falls Festival Tasmania **Dates(s):** 29/12/11 - 01/01/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)			
[ ] Airshow	[ ] EM / Exercise	[1] Music Festival	[ ] National or International Event
[ ] Marathon	[1] New Year	[ ] Protest	[ ] Est. attendance > 100,000

Event Type	Divisional	Regional	State
Ceremonial	[ ] Local (funeral, memorial...)	[ ] Municipal	[ ] State [ ] ANZAC Day
Concert	[ ] Local [ ] Children	[ ] Stadium	[1] Large open-air
Festival/parade	[ ] School [ ] Local	[ ] Municipal	[ ] Fireworks [ ] Capital City
Horse-related	[ ] Club event [ ] Rodeo	[ ] X-country	[ ] Major carnival
Motor sports	[ ] Club event [ ] Motorbikes	[ ] Moto-cross	[ ] State comp [ ] Nat comp
Sports	[ ] Local [ ] Water	[ ] Triathlon	[ ] Major carnival [ ] Endurance

Event Details				
Duration	[ ] < 4 hours	[ ] 4 - 12 hours	[ ] 12-24 hours	[1] 1-7 days [ ] > 7 days
Queuing	[ ] < 1 hour	[1] 1 - 2 hours	[ ] 2 - 4 hours	[ ] 4 - 12 hours [ ] > 12 hours
Time of day	[1] Day	[1] Evening	[ ] Shift start at / before 06:00	[1] Overnight
Residential	[ ] Indoor (fixed)	[ ] Indoor (temp)	[1] Camping	[1] SJ staff sleeping on-site
Fatigue Risks	[1] > 10hr shift	[1] > 1hr travel	[1] > 12hr shift	[ ] Overnight on-call

Location (select all that apply with a "1")				
Precinct	[ ] Indoor	[1] Secure site	[1] Outdoor	[ ] Public Roads [1] Remote
Venue	[ ] Stadium	[1] Temporary	[ ] Airport	[ ] No fixed outer boundary

Patron Demographics (select all that apply with a "1")				
Age	[1] Young Adult	[1] Adult	[ ] Child	[ ] Elderly
Seating	[1] Seating	[1] Marquee	[ ] Grandstand	[1] Standing [1] "Mosh pit"
Groups	[ ] Family	[ ] Political	[ ] Rival groups	[ ] History of crowd violence
Est. attendance	[ ] < 1,000	[ ] 1 - 4,999	[ ] 5 - 14,999	[1] 15 - 50,000 [ ] > 50,000

Previous / Similar Event Experience (select best option only with a "1")				
Pt numbers	[ ] Low (<1%)	[1] Mid (1-2%)	[ ] 1st event	[ ] High (> 2%) [1] Total > 200

Clinical & Logistics (select all that apply with a "1")				
Expected risks	[1] Alcohol	[1] Cold	[ ] Exercise	[1] Medical [1] Drugs
		[1] Pt transport	[ ] Heat	[ ] Dense crowd [ ] Trauma
Nearest hospital	[1] Tertiary		[ ] Regional	[ ] Local rural hospital
Receiving hospital transport times		[ ] < 30min (road)		[1] > 30min (road) [1] > 30min (air)
Comms coverage	[ ] No mobile ph	[1] No SJ Network	[ ] HF required	[1] Comms assistance required
Vehicle access	[ ] 2WD (sealed)	[1] 2WD (dirt rd)	[1] 4WD required	[ ] Water access [ ] Air retrieval

Column total:	A 6	B 12	C 4	D 8	E 6

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **100**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name	**Falls Festival Tasmania**	Event Date:	**29/12-1/1**
Location	**Marion Bay, Tasmania**	Duration:	3 days
Attendance	**15,000** Competitors:	**1,500 staff**	in addition to general attendance
Event Description	3 day residential music festival in rural area approx 1 hour drive from Hobart. Single entry/exit road often congested, prolonging road ambulance transport times. Health services provided 24 hours a day with medical team operational during peak hours.		

St John Resources

Total number of St John members: **40** Number of First Aid Posts: **2**

Bicycle Emergecy Response Team (BERTs): **0** Location: N/A

Mobile Health Emergency Response Team (HERTs): **1** Location: Mobile 4WD response vehicles

Patient transport: SJ & Ambulance 4WD patient transport vehicles. SJ primary response

Medical Assistance Team (MAT): **1** Location(s): Central First Aid Centre

Command & Communications

SJ Command:	Commander & deputy on-site for day and then busier evening shift
Liaison:	No formal multi-agency EOC. Good communications with event organisers!
SJ Communications:	UHF & VHF simplex channels. Comms base station in Central FA Centre
Health Command:	SJ & ambulance command own resources. Strong team effort

Other Health Resources:

Ambulance:	Ambulance Tasmania crews on-site. Supervisor for peak periods
Other Providers:	Surf Life Saving (patrolling designated swimming beach), Save-A-Mate
Medical Team:	Mix of SJ volunteer HPs & doctors volunteer or paid by event organisers
Health Department:	Supportive of SJ model but minimal active involvement
Local Hospitals:	Assist with some clinical resources / consumables for the event
Health Planning:	Collaborative between SJ & Ambulance Tasmania

Patients treated:

Total clinical: **751** Non-clinical / preventive: **335**

Patient transports: __ to SJ MAT **3** to hospital by ambulance __ off-site by other means

In SJ MAT: __ Overview: **252 patients treated by medical team during event**

Key Features:

1. Medical team comprises SJ volunteer HP, event doctors (paid & volunteer) & other volunteer
2. SJ signs up nurses & other health professionals as members in the lead up to the event
3. Road ambulance transports significantly prolonged by traffic congestion on single access road
4. On-site pharmacy selling over-the-counter medication
5. All patients triaged and registered at the entry to Central First Aid / Medical Centre
6. Patient database prints triage details onto SJ OB12 template for handwritten completion
7. Current legislative barriers to SJ having independent medications licence. This is currently under discussion with the Health Department & Chief Pharmacist
8. Limited formed radios on-site with 4WD vehicles required to access of most of the site
9. Skeleton overnight crew due to reduced demand. Members sleeping in tents on-site

Other Comments:

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Summadayze Music Festival **Dates(s):** 1/01/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)									
	Airshow		EM / Exercise	1	Music Festival		National or International Event		
	Marathon	1	New Year		Protest		Est. attendance > 100,000		
Event Type	**Divisional**			**Regional**		**State**			
Ceremonial		Local (funeral, memorial…)			Municipal		State		ANZAC Day
Concert		Local		Children	1	Stadium	1	Large open-air	
Festival/parade		School		Local		Municipal		Fireworks	Capital City
Horse-related		Club event		Rodeo		X-country		Major carnival	
Motor sports		Club event		Motorbikes		Moto-cross		State comp	Nat comp
Sports		Local		Water		Triathlon		Major carnival	Endurance
Event Details									
Duration		< 4 hours		4 - 12 hours	1	12-24 hours		1-7 days	> 7 days
Queuing	1	< 1 hour		1 - 2 hours		2 - 4 hours		4 - 12 hours	> 12 hours
Time of day	1	Day	1	Evening		Shift start at / before 06:00			Overnight
Residential		Indoor (fixed)		Indoor (temp)		Camping		SJ staff sleeping on-site	
Fatigue Risks	1	> 10hr shift		> 1hr travel	1	> 12hr shift		Overnight on-call	
Location (select all that apply with a "1")									
Precinct		Indoor	1	Secure site	1	Outdoor		Public Roads	Remote
Venue	1	Stadium	1	Temporary		Airport		No fixed outer boundary	
Patron Demographics (select all that apply with a "1")									
Age	1	Young Adult	1	Adult		Child		Elderly	
Seating		Seating	1	Marquee	1	Grandstand	1	Standing	1 "Mosh pit"
Groups		Family		Political		Rival groups	1	History of crowd violence	
Est. attendance		< 1,000		1 - 4,999		5 - 14,999	1	15 - 50,000	> 50,000
Previous / Similar Event Experience (select best option only with a "1")									
Pt numbers		Low (<1%)	1	Mid (1-2%)		1st event		High (> 2%)	1 Total > 200
Clinical & Logistics (select all that apply with a "1")									
Expected risks	1	Alcohol		Cold		Exercise	1	Medical	1 Drugs
				Pt transport	1	Heat	1	Dense crowd	Trauma
Nearest hospital	1	Tertiary				Regional		Local rural hospital	
Receiving hospital transport times			1	< 30min (road)				> 30min (road)	> 30min (air)
Comms coverage		No mobile ph		No SJ Network		HF required	1	Comms assistance required	
Vehicle access	1	2WD (sealed)		2WD (dirt rd)		4WD required		Water access	Air retrieval
Column total:	A 8		B 7		C 6		D 7		E 3

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **83**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Summadayze Music Festival** Event Date: **1/01/12**

Location: **Sidney Myer Music Bowl, Melbourne VIC** Duration: 15 hours

Attendance: **25,000** Competitors: **N/A** in addition to general attendance

Event Description: Single day, multi-stage (1 large, 9 smaller) music festival held at Sidney Myer Music Bowl in central Melbourne. Traditional New Years Day party with 12 bars open serving alcohol. Drug-affected patients are common at this event and the weather is often hot, resulting in high numbers of patients.

St John Resources

Total number of St John members: **30** Number of First Aid Posts: **3**

Bicycle Emergecy Response Team (BERTs): **1** Location: Mobile around perimeter

Mobile Health Emergency Response Team (HERTs): **0** Location: N/A

Patient transport: No onsite vehicles. Stretchers within event boundary. Ambulance offsite

Medical Assistance Team (MAT): **1** Location(s): Rear of venue with dedicated ambulance access

Command & Communications

SJ Command: On-site commander & deputy, working from SJ comms/command vehicle

Liaison: Multi-agency EOC with SJ liaison officer.

SJ Communications: CAD used. Good simplex coverage managed from SJ1 (SJ comms vehicle).

Health Command: Health Commander works from SJ MAT location

Other Health Resources:

Ambulance: Ambulance Commander, Liaison & 3 ALS paramedic crews on-site.

Other Providers: DanceWize providing recovery services to drug & alcohol affected patients

Medical Team: SJ MAT on-site. 8 bed capacity

Health Department: No active involvement

Local Hospitals: No active involvement

Health Planning: SJ & AV ops orders. Ambulance Health Emergency Management Plan

Patients treated:

Total clinical: **230** Non-clinical / preventive: **N/A**

Patient transports: __ to SJ MAT **3** to hospital by ambulance __ off-site by other means

In SJ MAT: **16** __ Overview: traditionally drug, alcohol, heat and minor injury related

Key Features:

1. Traditionally very busy, high density, multi-stage music festival
2. Large numbers of heat, alcohol and/or drug affected patients commonly encountered
3. Drug affected patients requiring restraint & sedation encountered each year
4. High demand for suturing and wound management from minor injuries each year
5. Large amount of sunscreen used - great target for collaborative project with SunSmart
6. First year that Summadayze has not been preceded by large overnight dance party in CBD
7. Unusally low number of patient presentations to the MAT this year with very few drug overdoses - this was likely due to the cooler weather on the day

Other Comments:

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Australia Day Skyworks **Dates(s):** 26/01/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)									
	Airshow		EM / Exercise		Music Festival		National or International Event		
	Marathon		New Year		Protest	1	Est. attendance > 100,000		
Event Type	**Divisional**				**Regional**		**State**		
Ceremonial		Local (funeral, memorial…)			Municipal		State		ANZAC Day
Concert		Local		Children	Stadium		Large open-air		
Festival/parade		School		Local	Municipal	1	Fireworks	1	Capital City
Horse-related		Club event		Rodeo	X-country		Major carnival		
Motor sports		Club event		Motorbikes	Moto-cross		State comp		Nat comp
Sports		Local		Water	Triathlon		Major carnival		Endurance
Event Details									
Duration		< 4 hours	1	4 - 12 hours	12-24 hours		1-7 days		> 7 days
Queuing	1	< 1 hour		1 - 2 hours	2 - 4 hours		4 - 12 hours		> 12 hours
Time of day	1	Day	1	Evening	Shift start at / before 06:00		Overnight		
Residential		Indoor (fixed)		Indoor (temp)	Camping		SJ staff sleeping on-site		
Fatigue Risks	1	> 10hr shift		> 1hr travel	> 12hr shift		Overnight on-call		
Location (select all that apply with a "1")									
Precinct		Indoor		Secure site	1	Outdoor	Public Roads		Remote
Venue		Stadium	1	Temporary	Airport	1	No fixed outer boundary		
Patron Demographics (select all that apply with a "1")									
Age	1	Young Adult	1	Adult	1	Child	1	Elderly	
Seating	1	Seating	1	Marquee	Grandstand	1	Standing		"Mosh pit"
Groups	1	Family		Political	Rival groups	1	History of crowd violence		
Est. attendance		< 1,000		1 - 4,999	5 - 14,999		15 - 50,000	1	> 50,000
Previous / Similar Event Experience (select best option only with a "1")									
Pt numbers	1	Low (<1%)		Mid (1-2%)	1st event		High (> 2%)	1	Total > 200
Clinical & Logistics (select all that apply with a "1")									
Expected risks	1	Alcohol		Cold		Exercise	1	Medical	1 Drugs
			1	Pt transport	1	Heat	1	Dense crowd	Trauma
Nearest hospital	1	Tertiary				Regional		Local rural hospital	
Receiving hospital transport times			1	< 30min (road)				> 30min (road)	> 30min (air)
Comms coverage		No mobile ph		No SJ Network		HF required	1	Comms assistance required	
Vehicle access	1	2WD (sealed)		2WD (dirt rd)		4WD required	1	Water access	Air retrieval

Column total:	A	B	C	D	E
	10	7	3	9	4

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **80**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Australia Day Skyworks** Event Date: **26/01/12**

Location: **Swan River & surrounds, Perth WA** Duration: 1 day

Attendance: **150,000+** Competitors: **N/A** in addition to general attendance

Event Description: Australia Day fireworks display with large crowds gathering on the north and south bank of the Swan River (Perth Water). Alcohol related violence has been a problem but alcohol restrictions are reducing this. This year the event was in the middle of a week-long heatwave (Temp 40+ each day)

St John Resources

Total number of St John members: _____ Number of First Aid Posts: _____

Bicycle Emergecy Response Team (BERTs): __ Location: _____

Mobile Health Emergency Response Team (HERTs): **0** Location: N/A

Patient transport: St John (small) first aid vans used to get through crowd & on narrow paths

Medical Assistance Team (MAT): **0** Location(s): N/A

Command & Communications

SJ Command: SJ FAS Manager located in multi-agency EOC with VFAS member

Liaison: Command and liaison roles combined

SJ Communications: SJ volunteers on simplex channels from caravan. Access to ambulance radio

Health Command: St John Ambulance Commander in charge of all health resources

Other Health Resources:

Ambulance: St John Ambulance - road ambulances & paramedics on SES boats

Other Providers: Nil

Medical Team: N/A

Health Department: No active involvement

Local Hospitals: No active involvement

Health Planning: St John Ambulance & First Aid planning separate but collaborative

Patients treated:

Total clinical: _____ Non-clinical / preventive: _____

Patient transports: **0** to SJ MAT __ to hospital by ambulance __ off-site by other means

In SJ MAT: **0** Overview: N/A

Key Features:

1. Large crowd spread over large area with large body of water between two river banks
2. Traffic congestion traditionally very heavy on south bank of Swan River (long access delays)
3. Paramedics (with bronze medalion) on boats provide response to south riverbank & on water
4. St John provider of ambulance and first aid services - collaborative planning & response mgmt
5. Crowds very low this year (especially during the day) due to extreme heat
6. Health department & St John media releases in lead up to event with heat health advice
7. Very low patient presentation numbers this year. Most patrons arrived just before fireworks and appeared to heed heat health advice in lead up to the event
8. Paramedics located at large posts to administer iv therapy on-site (with capacity to discharge)
9. Health department & St John media releases in lead up to event with heat health advice

Other Comments:

Alcohol restrictions introduced over the last few years have dramatically reduced the number of alcohol-related violence and number of serious injuries

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Big Day Out Melbourne **Dates(s):** 29/01/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)									
	Airshow		EM / Exercise	1	Music Festival		National or International Event		
	Marathon		New Year		Protest		Est. attendance > 100,000		
Event Type	**Divisional**			**Regional**		**State**			
Ceremonial		Local (funeral, memorial…)			Municipal		State		ANZAC Day
Concert		Local		Children		Stadium	1	Large open-air	
Festival/parade		School		Local		Municipal		Fireworks	Capital City
Horse-related		Club event		Rodeo		X-country		Major carnival	
Motor sports		Club event		Motorbikes		Moto-cross		State comp	Nat comp
Sports		Local		Water		Triathlon		Major carnival	Endurance
Event Details									
Duration		< 4 hours		4 - 12 hours	1	12-24 hours		1-7 days	> 7 days
Queuing		< 1 hour	1	1 - 2 hours		2 - 4 hours		4 - 12 hours	> 12 hours
Time of day	1	Day	1	Evening		Shift start at / before 06:00		Overnight	
Residential		Indoor (fixed)		Indoor (temp)		Camping		SJ staff sleeping on-site	
Fatigue Risks	1	> 10hr shift		> 1hr travel	1	> 12hr shift		Overnight on-call	
Location (select all that apply with a "1")									
Precinct		Indoor	1	Secure site	1	Outdoor		Public Roads	Remote
Venue		Stadium	1	Temporary		Airport		No fixed outer boundary	
Patron Demographics (select all that apply with a "1")									
Age	1	Young Adult	1	Adult		Child		Elderly	
Seating		Seating	1	Marquee		Grandstand	1	Standing	1 "Mosh pit"
Groups		Family		Political		Rival groups		History of crowd violence	
Est. attendance		< 1,000		1 - 4,999		5 - 14,999	1	15 - 50,000	> 50,000
Previous / Similar Event Experience (select best option only with a "1")									
Pt numbers		Low (<1%)	1	Mid (1-2%)		1st event		High (> 2%)	1 Total > 200
Clinical & Logistics (select all that apply with a "1")									
Expected risks	1	Alcohol		Cold		Exercise	1	Medical	1 Drugs
			1	Pt transport	1	Heat	1	Dense crowd	1 Trauma
Nearest hospital	1	Tertiary				Regional		Local rural hospital	
Receiving hospital transport times			1	< 30min (road)				> 30min (road)	> 30min (air)
Comms coverage		No mobile ph		No SJ Network		HF required	1	Comms assistance required	
Vehicle access	1	2WD (sealed)		2WD (dirt rd)		4WD required		Water access	Air retrieval
Column total:	A 6		B 9		C 4		D 6		E 4

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **71**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name	**Big Day Out Melbourne**	Event Date:	**29/01/12**
Location	**Flemington Racecourse Carpark, VIC**	Duration:	15 hours
Attendance	**40,000** Competitors: **N/A**	in addition to general attendance	
Event Description	Large multi-stage outdoor single-day music festival. Large numbers of patients treated each year for conditions that can be safely managed on-site. Established collaborative deployment model between SJ & ambulance. SJ services the Big Day Out run in multiple Australian states.		

St John Resources

Total number of St John members: **50** Number of First Aid Posts: **4**

Bicycle Emergecy Response Team (BERTs): **3** Location: Mobile in & around event site

Mobile Health Emergency Response Team (HERTs): **0** Location: N/A

Patient transport: SJ & ambulance electric patient transport buggies on-site

Medical Assistance Team (MAT): **1** Location(s): Centrally located Medical Compound

Command & Communications

SJ Command:	SJ Commander & deputies on-site. Located near ambulance commanders
Liaison:	SJ and ambulance in multi-agency EOC
SJ Communications:	Excellent total area simplex coverage. Comms vehicle with CAD on-site
Health Command:	Health Commander on-site coordinates ambulance, medical & first aid

Other Health Resources:

Ambulance:	Ambulance commander, triage, 2 bike crews, 4 ALS paramedics & vehicles
Other Providers:	Australian Paramedics (touring party), Youth Substance Abuse Service
Medical Team:	SJ MAT on-site. Approx 14 bed capacity (3 air-conditioned)
Health Department:	No active involvement
Local Hospitals:	No active involvement
Health Planning:	SJ & AV ops orders. Ambulance Health Emergency Management Plan

Patients treated:

Total clinical: **595** Non-clinical / preventive: **N/A**

Patient transports: __ to SJ MAT **2** to hospital by ambulance __ off-site by other means

In SJ MAT: **46** __ Overview: heat, alcohol, drugs, minor trauma

Key Features:

1. Large number of heat, alcohol and/or dug affected patients treated on-site & returned to event
2. Transport through crowd made easier by use of electric patient transport buggies
3. Ambulance paramedic provides clinical care with SJ driver on SJ patient transport buggy
4. MAT located centrally with easy ambulance access/egress.
5. Air-conditioning in MAT site-hut but not in tent (fans only)
6. Minimal interaction between Australian Paramedics & other on-site health providers (SJ, AV)
7. Total time required for first aid on-site exceeds 14 hours - shifts (including commanders) split to comply with state fatigue policy
8. St John engaged as provider for BDO in multiple states - different service models & pricing
9. St John not authorised to transport on-site or off-site to hospital in Victoria

Other Comments:

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Ironman NZ **Dates(s):** 3-4/03/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)			
[ ] Airshow	[ ] EM / Exercise	[ ] Music Festival	[1] National or International Event
[1] Marathon	[ ] New Year	[ ] Protest	[ ] Est. attendance > 100,000

Event Type	Divisional		Regional		State	
Ceremonial	[ ] Local (funeral, memorial…)		[ ] Municipal		[ ] State	[ ] ANZAC Day
Concert	[ ] Local	[ ] Children	[ ] Stadium		[ ] Large open-air	
Festival/parade	[ ] School	[ ] Local	[ ] Municipal		[ ] Fireworks	[ ] Capital City
Horse-related	[ ] Club event	[ ] Rodeo	[ ] X-country		[ ] Major carnival	
Motor sports	[ ] Club event	[ ] Motorbikes	[ ] Moto-cross		[ ] State comp	[ ] Nat comp
Sports	[ ] Local	[1] Water	[1] Triathlon		[1] Major carnival	[1] Endurance

Event Details					
Duration	[ ] < 4 hours	[ ] 4 - 12 hours	[1] 12-24 hours	[ ] 1-7 days	[ ] > 7 days
Queuing	[1] < 1 hour	[ ] 1 - 2 hours	[ ] 2 - 4 hours	[ ] 4 - 12 hours	[ ] > 12 hours
Time of day	[1] Day	[1] Evening	[1] Shift start at / before 06:00		[ ] Overnight
Residential	[ ] Indoor (fixed)	[ ] Indoor (temp)	[ ] Camping	[ ] SJ staff sleeping on-site	
Fatigue Risks	[1] > 10hr shift	[1] > 1hr travel	[1] > 12hr shift	[ ] Overnight on-call	

Location (select all that apply with a "1")					
Precinct	[ ] Indoor	[ ] Secure site	[1] Outdoor	[1] Public Roads	[1] Remote
Venue	[ ] Stadium	[1] Temporary	[ ] Airport	[1] No fixed outer boundary	

Patron Demographics (select all that apply with a "1")					
Age	[1] Young Adult	[1] Adult	[1] Child	[1] Elderly	
Seating	[ ] Seating	[1] Marquee	[ ] Grandstand	[1] Standing	[ ] "Mosh pit"
Groups	[1] Family	[ ] Political	[ ] Rival groups	[ ] History of crowd violence	
Est. attendance	[ ] < 1,000	[ ] 1 - 4,999	[1] 5 - 14,999	[ ] 15 - 50,000	[ ] > 50,000

Previous / Similar Event Experience (select best option only with a "1")					
Pt numbers	[ ] Low (<1%)	[ ] Mid (1-2%)	[ ] 1st event	[1] High (> 2%)	[1] Total > 200

Clinical & Logistics (select all that apply with a "1")					
Expected risks	[ ] Alcohol	[1] Cold	[1] Exercise	[1] Medical	[ ] Drugs
		[1] Pt transport	[ ] Heat	[ ] Dense crowd	[1] Trauma
Nearest hospital	[ ] Tertiary		[1] Regional	[ ] Local rural hospital	
Receiving hospital transport times		[ ] < 30min (road)		[1] > 30min (road)	[ ] > 30min (air)
Comms coverage	[ ] No mobile ph	[ ] No SJ Network	[ ] HF required	[1] Comms assistance required	
Vehicle access	[1] 2WD (sealed)	[ ] 2WD (dirt rd)	[ ] 4WD required	[1] Water access	[1] Air retrieval

Column total:	A 6	B 8	C 9	D 10	E 5

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **107**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Ironman NZ** Event Date: **3-4/3/12**

Location: **Taupo, New Zealand** Duration: 1 day

Attendance: **5,000+** Competitors: **1,500** in addition to general attendance

Event Description: Planned annual 226km Ironman (3.8km swim, 180km bike, 42.2km run) was cancelled due to extreme weather event forecast for event day. Half-Ironman was conducted the day after. Event held in rural town with limited health services 3.5 hours drive from Auckland / 1hr to regional hospital

First Aid Resources

Total number of First Aid providers: _____ Number of First Aid Posts: _____

Bicycle Emergecy Response Team (BERTs): **0** Location: N/A

Mobile Health Emergency Response Team (HERTs): **0** Location: N/A

Patient transport: Provided by local St John Ambulance service. Water rescue

Medical Assistance Team (MAT): **1** Location(s): In large hall near finish line

Command & Communications

SJ Command: N/A

Liaison: No multi-agency EOC. Event management team communicate by phone

SJ Communications: N/A

Health Command: Event medical director has overall health command

Other Health Resources:

Ambulance: business

Other Providers: First aiders (volunteers with at least a current FA certificate), water rescue

Medical Team: Provided by NZ Territorial (Army Reserve) Medical Team - no charge

Health Department: No active involvement

Local Hospitals: Local GP is deputy medical director. Drugs supplied from hosp pharmacy

Health Planning: Medical director leads volunteers, ambulance military & local health service

Patients treated:

Total clinical: **N/A** Non-clinical / preventive: _____

Patient transports: ___ to SJ MAT ___ to hospital by ambulance ___ off-site by other means

In SJ MAT: ___ Overview: exercise physiology disturbances, hypothermia (swim), trauma

Key Features:

1. NZ Territorial Forces (Army Reserve) Medical Team used Ironman NZ as annual training exercise
2. Endurance medical conditions common to Ironman and prolonged military deployment
3. First aiders volunteer for this event (doctors, nurses, physios, first aiders) - not one agency
4. Many clinical and logisitcs strategies learned - invaluable in preparation for Ironman Melbourne
5. Circuit event course - single medical team, reduces total event footprint. Easier logistics!!
6. Difficult access for staff and competitors across barriers in place for run and bike events
7. International competitors - language barriers (translation sheets), some have no health insurance, limited recovery before travelling home, often finish race and recover alone (in hotel)
8. Strategic planning objective to minimise the number of patients treated at local hospital
9. Patients transported from event into event medical centre, not local hospital

Other Comments:

3 step triage & assessment after race finish - all patients weighed & seated after finishing (screening), short-stay area to lie down & recover then finally in to medical team if required

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Future Music Festival Melb **Dates(s):** 11/03/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)									
	Airshow		EM / Exercise	1	Music Festival		National or International Event		
	Marathon		New Year		Protest		Est. attendance > 100,000		
Event Type	**Divisional**			**Regional**		**State**			
Ceremonial		Local (funeral, memorial…)			Municipal		State		ANZAC Day
Concert		Local		Children		Stadium	1	Large open-air	
Festival/parade		School		Local		Municipal		Fireworks	Capital City
Horse-related		Club event		Rodeo		X-country		Major carnival	
Motor sports		Club event		Motorbikes		Moto-cross		State comp	Nat comp
Sports		Local		Water		Triathlon		Major carnival	Endurance
Event Details									
Duration		< 4 hours		4 - 12 hours	1	12-24 hours		1-7 days	> 7 days
Queuing		< 1 hour	1	1 - 2 hours		2 - 4 hours		4 - 12 hours	> 12 hours
Time of day	1	Day	1	Evening		Shift start at / before 06:00		Overnight	
Residential		Indoor (fixed)		Indoor (temp)		Camping		SJ staff sleeping on-site	
Fatigue Risks	1	> 10hr shift		> 1hr travel	1	> 12hr shift		Overnight on-call	
Location (select all that apply with a "1")									
Precinct		Indoor	1	Secure site	1	Outdoor		Public Roads	Remote
Venue		Stadium	1	Temporary		Airport		No fixed outer boundary	
Patron Demographics (select all that apply with a "1")									
Age	1	Young Adult	1	Adult		Child		Elderly	
Seating		Seating	1	Marquee		Grandstand	1	Standing	1 "Mosh pit"
Groups		Family		Political		Rival groups		History of crowd violence	
Est. attendance		< 1,000		1 - 4,999		5 - 14,999	1	15 - 50,000	> 50,000
Previous / Similar Event Experience (select best option only with a "1")									
Pt numbers		Low (<1%)		Mid (1-2%)		1st event	1	High (> 2%)	1 Total > 200
Clinical & Logistics (select all that apply with a "1")									
Expected risks	1	Alcohol		Cold		Exercise	1	Medical	1 Drugs
			1	Pt transport	1	Heat	1	Dense crowd	Trauma
Nearest hospital	1	Tertiary				Regional		Local rural hospital	
Receiving hospital transport times			1	< 30min (road)				> 30min (road)	> 30min (air)
Comms coverage		No mobile ph		No SJ Network		HF required	1	Comms assistance required	
Vehicle access	1	2WD (sealed)		2WD (dirt rd)		4WD required		Water access	Air retrieval
Column total:	A 6		B 8		C 4		D 7		E 3

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **68**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Future Music Festival Melb** Event Date: **11/03/12**

Location: **Flemington Racecourse Carpark, VIC** Duration: 12 hours

Attendance: **45,000** Competitors: **N/A** in addition to general attendance

Event Description: Large multi-stage outdoor single-day music festival. Large numbers of patients treated each year for conditions that can be safely managed on-site. Established collaborative deployment model between SJ & ambulance. SJ services the Big Day Out run in multiple Australian states.

St John Resources

Total number of St John members: **50** Number of First Aid Posts: **5**

Bicycle Emergecy Response Team (BERTs): **2** Location: Mobile in & around event site

Mobile Health Emergency Response Team (HERTs): **0** Location: N/A

Patient transport: SJ & ambulance electric patient transport buggies on-site

Medical Assistance Team (MAT): **1** Location(s): Centrally located medical compound

Command & Communications

SJ Command: SJ Commander & deputies on-site. Located near ambulance commanders

Liaison: SJ and ambulance in multi-agency EOC

SJ Communications: Excellent total area simplex coverage. Comms vehicle with CAD on-site

Health Command: Health Commander on-site coordinates ambulance, medical & first aid

Other Health Resources:

Ambulance: Ambulance commander, triage, 2 bike crews, 4 ALS paramedics & vehicles

Other Providers: Red Cross Save-A-Mate staff on-site for drug/alcohol recovery & counselling

Medical Team: SJ MAT on-site. Approx 10 bed capacity in large tent with fans

Health Department: No active involvement

Local Hospitals: No active involvement

Health Planning: SJ & AV ops orders. Ambulance Health Emergency Management Plan

Patients treated:

Total clinical: **248** Non-clinical / preventive: **N/A**

Patient transports: __ to SJ MAT **6** to hospital by ambulance __ off-site by other means

In SJ MAT: **48** __ Overview: heat, alcohol, drugs, minor trauma

Key Features:

1. Large number of heat, alcohol and/or dug affected patients treated on-site & returned to event
2. All MAT beds located in 1 tent (simplifies patient flow & clinical oversight) - compared to BDO
3. St John MAT colocated with but separate from first aid post (neighbouring tents)
4. Large number of beds & chairs gives on-site extended patient care capacity
5. Ambulance paramedic provides clinical care with SJ driver on SJ patient transport buggy
6. MAT located centrally with easy ambulance access/egress.

8. St John engaged as provider for BDO in multiple states - different service models & pricing
9. St John not authorised to transport on-site or off-site to hospital

Other Comments:

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Australian F1 Grand Prix **Dates(s):** 15-18/03/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)									
	Airshow		EM / Exercise		Music Festival	1	National or International Event		
	Marathon		New Year		Protest	1	Est. attendance > 100,000		
Event Type	**Divisional**				**Regional**		**State**		
Ceremonial		Local (funeral, memorial…)			Municipal		State		ANZAC Day
Concert		Local		Children	Stadium	1	Large open-air		
Festival/parade		School		Local	Municipal		Fireworks		Capital City
Horse-related		Club event		Rodeo	X-country		Major carnival		
Motor sports		Club event		Motorbikes	Moto-cross		State comp		Nat comp
Sports		Local		Water	Triathlon		Major carnival		Endurance
Event Details									
Duration		< 4 hours		4 - 12 hours	12-24 hours	1	1-7 days		> 7 days
Queuing	1	< 1 hour		1 - 2 hours	2 - 4 hours		4 - 12 hours		> 12 hours
Time of day	1	Day	1	Evening	Shift start at / before 06:00				Overnight
Residential		Indoor (fixed)		Indoor (temp)	Camping		SJ staff sleeping on-site		
Fatigue Risks	1	> 10hr shift		> 1hr travel	> 12hr shift		Overnight on-call		
Location (select all that apply with a "1")									
Precinct		Indoor	1	Secure site	1 Outdoor		Public Roads		Remote
Venue		Stadium	1	Temporary	Airport		No fixed outer boundary		
Patron Demographics (select all that apply with a "1")									
Age	1	Young Adult	1	Adult	1 Child	1	Elderly		
Seating	1	Seating	1	Marquee	1 Grandstand	1	Standing	1	"Mosh pit"
Groups	1	Family		Political	Rival groups		History of crowd violence		
Est. attendance		< 1,000		1 - 4,999	5 - 14,999		15 - 50,000	1	> 50,000
Previous / Similar Event Experience (select best option only with a "1")									
Pt numbers	1	Low (<1%)		Mid (1-2%)	1st event		High (> 2%)		Total > 200
Clinical & Logistics (select all that apply with a "1")									
Expected risks	1	Alcohol		Cold	Exercise	1	Medical		Drugs
			1	Pt transport	1 Heat		Dense crowd		Trauma
Nearest hospital	1	Tertiary			Regional		Local rural hospital		
Receiving hospital transport times			1	< 30min (road)			> 30min (road)		> 30min (air)
Comms coverage		No mobile ph		No SJ Network	HF required	1	Comms assistance required		
Vehicle access	1	2WD (sealed)		2WD (dirt rd)	4WD required		Water access		Air retrieval

Column total:	A	B	C	D	E
	10	7	4	6	2

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **73**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Australian F1 Grand Prix** Event Date: **15-18/3**

Location: **Albert Park, Melbourne VIC** Duration: 4 days

Attendance: **250,000+** Competitors: **N/A** in addition to general attendance

Event Description: 4 day Formula 1 & other motorsports carnival held around Albert Park. Large number of corporate functions with largest public attendance over the final 2 (weekend days). Multi-agency emergency service planning with large annual emergency service staffing & infrastructure commitment.

St John Resources

Total number of St John members: **Upto 50/day** Number of First Aid Posts: ____

Bicycle Emergecy Response Team (BERTs): **2** Location: Opposite sides of lake

Mobile Health Emergency Response Team (HERTs): **2** Location: Mobile on buggies / in vehicles

Patient transport: SJ buggies & AV ambulances provide on-site transport

Medical Assistance Team (MAT): **1** Location(s): Near grandstand, on track exit road

Command & Communications

SJ Command: SJ Commander & deputies on-site, located in emergency services compound

Liaison: All emergency services, event management & contractors in EOC

SJ Communications: State comms vehicle (SJ1) on-site. CAD in use with wireless link to EOC

Health Command: Health Commander on-site. Health Incident Management Team established

Other Health Resources:

Ambulance: Ambulance commander & liaison. Paramedics for trackside & public areas

Other Providers: Dedicated trackside ambulance response vehicles & medical team

Medical Team: SJ MAT (patrons & events staff). Trackside medical centre (competitors)

Health Department: No active involvement

Local Hospitals: The Alfred Hospital (Trauma Centre) designated Event Trauma Centre

Health Planning: SJ & AV ops orders. Ambulance issued Health Emergency Management Plan

Patients treated:

Total clinical: **246** Non-clinical / preventive: ____

Patient transports: **?** to SJ MAT **0** to hospital by ambulance ___ off-site by other means

In SJ MAT: **44** ___ Overview: Wounds, joint injuries, review of head injuries, seizures

Key Features:

1. Lower acuity patients generally treated by MAT at this event (but many need medical review)
2. Regular contact with overseas media and members of racing team support staff
3. Patient presentation numbers and profile heavily dependent on weather conditions
4. SJ service delivery model and resource commitments have been refined over last 14 years
5. Single one-way tunnels providing entrance to and exit from centre of track
6. SES provide water rescue services in boats on Albert Park Lake
7. SJ MAT relocated this year - location chosen to be more visible (resulting in increased walk-up attendances) & more convenient for vehicle access (near exit road from centre of track & event)
8. Track invasion plan at end of F1 race - run as separate operation by police & emergency
9. Public concert at end of final F1 race - large number of patients from crush against barriers

Other Comments:

Ambulance transport patients from within event precinct to SJ MAT. SJ also keeps minibuses on-site during event for staff transport and capacity for moving multiple walking patients if required

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Ironman Melbourne **Dates(s):** 25/03/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)									
		Airshow		EM / Exercise		Music Festival	1	National or International Event	
	1	Marathon		New Year		Protest		Est. attendance > 100,000	
Event Type	**Divisional**				**Regional**		**State**		
Ceremonial		Local (funeral, memorial…)				Municipal		State	ANZAC Day
Concert		Local		Children		Stadium		Large open-air	
Festival/parade		School		Local		Municipal		Fireworks	Capital City
Horse-related		Club event		Rodeo		X-country		Major carnival	
Motor sports		Club event		Motorbikes		Moto-cross		State comp	Nat comp
Sports		Local	1	Water	1	Triathlon	1	Major carnival	1 Endurance
Event Details									
Duration		< 4 hours		4 - 12 hours	1	12-24 hours		1-7 days	> 7 days
Queuing	1	< 1 hour		1 - 2 hours		2 - 4 hours		4 - 12 hours	> 12 hours
Time of day	1	Day	1	Evening	1	Shift start at / before 06:00		Overnight	
Residential		Indoor (fixed)		Indoor (temp)		Camping		SJ staff sleeping on-site	
Fatigue Risks	1	> 10hr shift		> 1hr travel	1	> 12hr shift		Overnight on-call	
Location (select all that apply with a "1")									
Precinct		Indoor		Secure site	1	Outdoor	1	Public Roads	Remote
Venue		Stadium	1	Temporary		Airport	1	No fixed outer boundary	
Patron Demographics (select all that apply with a "1")									
Age	1	Young Adult	1	Adult	1	Child	1	Elderly	
Seating		Seating	1	Marquee	1	Grandstand	1	Standing	"Mosh pit"
Groups	1	Family		Political		Rival groups		History of crowd violence	
Est. attendance		< 1,000		1 - 4,999	1	5 - 14,999		15 - 50,000	> 50,000
Previous / Similar Event Experience (select best option only with a "1")									
Pt numbers		Low (<1%)		Mid (1-2%)	1	1st event		High (> 2%)	1 Total > 200
Clinical & Logistics (select all that apply with a "1")									
Expected risks		Alcohol	1	Cold	1	Exercise	1	Medical	Drugs
			1	Pt transport	1	Heat		Dense crowd	1 Trauma
Nearest hospital	1	Tertiary				Regional		Local rural hospital	
Receiving hospital transport times			1	< 30min (road)				> 30min (road)	> 30min (air)
Comms coverage		No mobile ph		No SJ Network		HF required	1	Comms assistance required	
Vehicle access	1	2WD (sealed)		2WD (dirt rd)		4WD required	1	Water access	Air retrieval
Column total:	A 7		B 8		C 11		D 8		E 3

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **96**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name	**Ironman Melbourne**	Event Date:	**25/03/12**
Location	**Frankston-Eastlink-St Kilda, VIC**	Duration:	19 hours
Attendance	**20,000** Competitors: **1,500**	in addition to general attendance	
Event Description	226km Ironman (3.8km swim, 180km bike, 42.2km run) conducted for the first time in Melbourne between Frankston & Melbourne. The point-to-point course is unusual for Ironman (normally a circuit with co-located start/finish) & carries significant logistical challenges.		

St John Resources

Total number of St John members: **110** Number of First Aid Posts: **9**

Bicycle Emergecy Response Team (BERTs): **5** Location: Frankston,run course & St Kilda

Mobile Health Emergency Response Team (HERTs): **5** Location: 2 (bike), 2 (run) courses

Patient transport: needed

Medical Assistance Team (MAT): **9** Location(s): Start/Transition (Frankston), Finish (St Kilda)

Command & Communications

SJ Command:	Commander + sector commanders for swim, bike, run course & finish area
Liaison:	Liaison officers at EOC in Frankston. Liaison in bike control room
SJ Communications:	SJ repeater coverage of entire course managed from State Comms Centre
Health Command:	AV Health Commander based in Frankston for duration of the event

Other Health Resources:

Ambulance:	Frankston & St Kilda commanders. Paramedics & vehicles throughout course
Other Providers:	Life Saving Victoria (swim course) - boats, boards & divers in the water
Medical Team:	SJ medical teams in Frankston & St Kilda
Health Department:	No active involvement
Local Hospitals:	Frankston & The Alfred hospitals advised of event health resources
Health Planning:	SJ & AV ops orders. Ambulance issued Health Emergency Management Plan

Patients treated:

Total clinical: **191** Non-clinical / preventive:

Patient transports: **2** to SJ MAT **10** to hospital by ambulance off-site by other means

In SJ MAT: **124** Overview: 10 at Frankston, 114 at finish line (St Kilda)

Key Features:

1. Invaluable planning information gained from Ironman NZ & data from Ironman WA head doctor
2. SJ clinical education session for health professionals on endurance medical conditions
3. All staff provided with first aid notes & translations of key terms (Chinese, Japanese & Korean)
4. Long day! - staggered start times & split shifts(comms, command) to comply with fatigue policy
5. SJ not authorised to transport on public roads - only half of ambulance transports competitors.
6. Challenges of point-to-point course compounded by traffic congestion around run course
7. SJ MAT at finish line = 32 bed field hospital + additional seated / first aid capacity. Areas divided into first aid, low & high acuity and resuscitation areas with specific staff allocations
8. Heavy demand on MAT triage - great example of SIEVE / SORT triage at entrance to MAT tent
9. Real-time (deidentified) bed management screen projected with colour change for bed/pt status

Other Comments:

This complex event was a great example of the complexity of health planning when engaging multiple pre-hospital providers across multiple health networks within a finite health budget!

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Tough Mudder **Dates(s):** 31/03 - 01/04/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)									
		Airshow		EM / Exercise		Music Festival	1	National or International Event	
	1	Marathon		New Year		Protest		Est. attendance > 100,000	
Event Type	**Divisional**				**Regional**		**State**		
Ceremonial		Local (funeral, memorial…)				Municipal		State	ANZAC Day
Concert		Local		Children		Stadium		Large open-air	
Festival/parade		School		Local		Municipal		Fireworks	Capital City
Horse-related		Club event		Rodeo		X-country		Major carnival	
Motor sports		Club event		Motorbikes		Moto-cross		State comp	Nat comp
Sports		Local	1	Water		Triathlon	1	Major carnival	1 Endurance
Event Details									
Duration		< 4 hours		4 - 12 hours		12-24 hours	1	1-7 days	> 7 days
Queuing		< 1 hour	1	1 - 2 hours		2 - 4 hours		4 - 12 hours	> 12 hours
Time of day	1	Day	1	Evening	1	Shift start at / before 06:00			Overnight
Residential		Indoor (fixed)		Indoor (temp)		Camping		SJ staff sleeping on-site	
Fatigue Risks	1	> 10hr shift	1	> 1hr travel	1	> 12hr shift		Overnight on-call	
Location (select all that apply with a "1")									
Precinct		Indoor		Secure site	1	Outdoor		Public Roads	1 Remote
Venue		Stadium	1	Temporary		Airport		No fixed outer boundary	
Patron Demographics (select all that apply with a "1")									
Age	1	Young Adult	1	Adult	1	Child		Elderly	
Seating		Seating	1	Marquee		Grandstand	1	Standing	"Mosh pit"
Groups		Family		Political		Rival groups		History of crowd violence	
Est. attendance		< 1,000		1 - 4,999		5 - 14,999	1	15 - 50,000	> 50,000
Previous / Similar Event Experience (select best option only with a "1")									
Pt numbers		Low (<1%)		Mid (1-2%)	1	1st event		High (> 2%)	1 Total > 200
Clinical & Logistics (select all that apply with a "1")									
Expected risks	1	Alcohol	1	Cold	1	Exercise	1	Medical	Drugs
			1	Pt transport		Heat		Dense crowd	1 Trauma
Nearest hospital		Tertiary				Regional	1	Local rural hospital	
Receiving hospital transport times				< 30min (road)			1	> 30min (road)	1 > 30min (air)
Comms coverage		No mobile ph		No SJ Network		HF required	1	Comms assistance required	
Vehicle access	1	2WD (sealed)	1	2WD (dirt rd)	1	4WD required	1	Water access	1 Air retrieval

Column total:	A	B	C	D	E
	5	10	7	9	6

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **106**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name	**Tough Mudder**	Event Date:	**31/3-1/4**
Location	**Phillip Island Raceway, Phillip Island**	Duration:	2 days
Attendance	**20,000** Competitors: **22,500**	in addition to general attendance	
Event Description	20km, 28 obstacle commando course. Obstacles feature barbed wire, high climbing walls, electric fence-like & lots of water/mud! First time event run in Australia. Previous information from medical providers in the US showed in excess of 40 patient transports to hospital from 6,000 competitors.		

St John Resources

Total number of St John members: _____ Number of First Aid Posts: _____

Bicycle Emergecy Response Team (BERTs): **0** Location: N/A

Mobile Health Emergency Response Team (HERTs): **4** Location: in 4WDs around the course

Patient transport: On-site 2WD & 4WD SJ patient transport vehicles & people movers

Medical Assistance Team (MAT): **1** Location(s): Course finish line

Command & Communications

SJ Command: SJ Command team on-site

Liaison: Event operations centre established on-site

SJ Communications: Local repeater. SJ Communications vehicle on-site

Health Command: Health Commander on-site

Other Health Resources:

Ambulance: Ambulance Commander, Triage Paramedic (at MAT) & 4 x ambulances

Other Providers: Life Saving Victoria (located at water hazards)

Medical Team: Provided by SJAA

Health Department: N/A

Local Hospitals: No involvement in event planning or health response for event.

Health Planning: Collaborative SJ & AV event health plan. No hospital involvement

Patients treated:

Total clinical: **441** Non-clinical / preventive: _____

Patient transports: **?** to SJ MAT **3** to hospital by ambulance **++** off-site by other means

In SJ MAT: **126** Overview: 16 shoulders relocated. Many wounds cleaned & closed

Key Features:

1. Only 3 patients transported from SJ MAT to hospital (all for non-time critical management)
2. On-site 4WD patient transport vehicles essential for patient access (4 x SJ, 1 x AV)
3. MAT enlocated 16 dislocated shoulders - none were transported to hospital
4. MAT treated large number of dirty wounds on-site (wounds cleaned & sutured on-site)
5. Patients transported to hospital in private cars after stabilisation of potential fractures in MAT
6. 3-4 hour round trip for an ambulance transporting patients to closest Melbourne hospital
7. SJ health response and MAT scope of practice avoided many patient transports, when compared to data from American medical providers with an equivalent patient attendance profile

Other Comments:

St John Ambulance Australia
EVENT REVIEW FORM

ESF PROJECT, Dr Stephen Luke (2011 - 2012)

St John Vic Risk Identification form completed at least 4 weeks before each event

RISK IDENTIFICATION

Event Name: Sydney Royal Easter Show **Dates(s):** 05-18/04/12

Instructions: Select options with a "1" in boxes, tally columns & allocate accordingly

Major Events (all to be reviewed by State Operations Team)				
☐ Airshow	☐ EM / Exercise	☐ Music Festival	1 National or International Event	
☐ Marathon	☐ New Year	☐ Protest	1 Est. attendance > 100,000	
Event Type	**Divisional**	**Regional**	**State**	
Ceremonial	☐ Local (funeral, memorial…)	☐ Municipal	☐ State	☐ ANZAC Day
Concert	☐ Local	☐ Children	☐ Stadium	☐ Large open-air
Festival/parade	☐ School	☐ Local	☐ Municipal	1 Fireworks 1 Capital City
Horse-related	☐ Club event	1 Rodeo	☐ X-country	1 Major carnival
Motor sports	☐ Club event	1 Motorbikes	1 Moto-cross	☐ State comp ☐ Nat comp
Sports	☐ Local	☐ Water	☐ Triathlon	☐ Major carnival ☐ Endurance
Event Details				
Duration	☐ < 4 hours	☐ 4 - 12 hours	☐ 12-24 hours	☐ 1-7 days 1 > 7 days
Queuing	☐ < 1 hour	1 1 - 2 hours	☐ 2 - 4 hours	☐ 4 - 12 hours ☐ > 12 hours
Time of day	1 Day	1 Evening	☐ Shift start at / before 06:00	☐ Overnight
Residential	☐ Indoor (fixed)	☐ Indoor (temp)	☐ Camping	☐ SJ staff sleeping on-site
Fatigue Risks	1 > 10hr shift	☐ > 1hr travel	1 > 12hr shift	☐ Overnight on-call
Location (select all that apply with a "1")				
Precinct	☐ Indoor	1 Secure site	1 Outdoor	☐ Public Roads ☐ Remote
Venue	1 Stadium	1 Temporary	☐ Airport	☐ No fixed outer boundary
Patron Demographics (select all that apply with a "1")				
Age	1 Young Adult	1 Adult	1 Child	1 Elderly
Seating	1 Seating	1 Marquee	1 Grandstand	1 Standing ☐ "Mosh pit"
Groups	1 Family	☐ Political	☐ Rival groups	☐ History of crowd violence
Est. attendance	☐ < 1,000	☐ 1 - 4,999	☐ 5 - 14,999	☐ 15 - 50,000 1 > 50,000
Previous / Similar Event Experience (select best option only with a "1")				
Pt numbers	1 Low (<1%)	☐ Mid (1-2%)	☐ 1st event	☐ High (> 2%) 1 Total > 200
Clinical & Logistics (select all that apply with a "1")				
Expected risks	1 Alcohol	☐ Cold	☐ Exercise	1 Medical ☐ Drugs
		1 Pt transport	☐ Heat	1 Dense crowd 1 Trauma
Nearest hospital	1 Tertiary		☐ Regional	☐ Local rural hospital
Receiving hospital transport times		1 < 30min (road)		☐ > 30min (road) ☐ > 30min (air)
Comms coverage	☐ No mobile ph	☐ No SJ Network	☐ HF required	1 Comms assistance required
Vehicle access	1 2WD (sealed)	☐ 2WD (dirt rd)	☐ 4WD required	☐ Water access ☐ Air retrieval

Column total:	A **10**	B **10**	C **5**	D **7**	E **5**

Total (A + B + 2xC + 3xD + 5xE) + 10 points for automatic major event: **96**

St John Ambulance Australia
EVENT REVIEW FORM
ESF PROJECT, Dr Stephen Luke (2011 - 2012)

EVENT SUMMARY FOR ESF REPORT

Event Details

Event Name: **Sydney Royal Easter Show** Event Date: **5-18/4/12**

Location: **Sydney Olympic Park, NSW** Duration: 14 days

Attendance: **1 million** Competitors: **N/A** in addition to general attendance

Event Description: 2 week event featuring a wide range of amusements, demonstrations and competitions (food & wine, wood chopping, show jumping, livestock, agriculture & many more). Daily crowd sizes range from 60,000 - 150,000 with SJ providing services on-site for 13 hours a day (0900-2200).

St John Resources

Total number of St John members: **471** Number of First Aid Posts: **6**

Bicycle Emergecy Response Team (BERTs): **2** Location: Mobile in & around event site

Mobile Health Emergency Response Team (HERTs): **2** Location: Mobile on SJ event buggies

Patient transport: On-site transport by SJ on event buggies. Off-site transport by ASNSW.

Medical Assistance Team (MAT): **1** Location(s): Undercroft - established treatment centre

Command & Communications

SJ Command: Commander & deputies on-site

Liaison: SJ Liaison in multi-agency EOC

SJ Communications: Repeater controlled from 2SJ Sydney (State Office). CAD in use

Health Command:

Other Health Resources:

Ambulance: ASNSW command & paramedics on-site

Other Providers:

Medical Team: SJ medical team on-site for all shifts for 14 days!

Health Department: No active involvement

Local Hospitals: No active involvement

Health Planning: SJ collaborates with ASNSW during planning phase

Patients treated:

Total clinical: **1430** Non-clinical / preventive: **N/A**

Patient transports: __ to SJ MAT __ to hospital by ambulance __ off-site by other means

In SJ MAT: __ Overview: predominantly lower acuity presentations

Key Features:

1. First time trial of a web-based triage & patient management system in medical team
2. Medical team deployment maintained for 14 days - volunteer doctors, nurses, paramedics
3. Use of BERT (bike) crews to cover large areas & high crowd density between first aid posts
4. Wide range of events - wood chopping, show jumping, cattle expos, amusements / rides…
5. Mobile medical teams respond to emergencies within the Showgrounds precinct
6. Close working relationship with ASNSW

Other Comments:

St John has a longstanding commitment to providing first aid health service to the RAS and has treated between 1,500 and 1,750 patients each year since 2008 - 315 by medical team in 2011.


ST JOHN AMBULANCE AUSTRALIA
SAVING
LIVES
THROUGH
St John
First Aid

Appendix 3

EMC 2012 Conference Presentation


ST JOHN AMBULANCE AUSTRALIA
SAVING
LIVES
THROUGH
St John
First Aid

St John Ambulance: Health Promotion, Provision & Protection

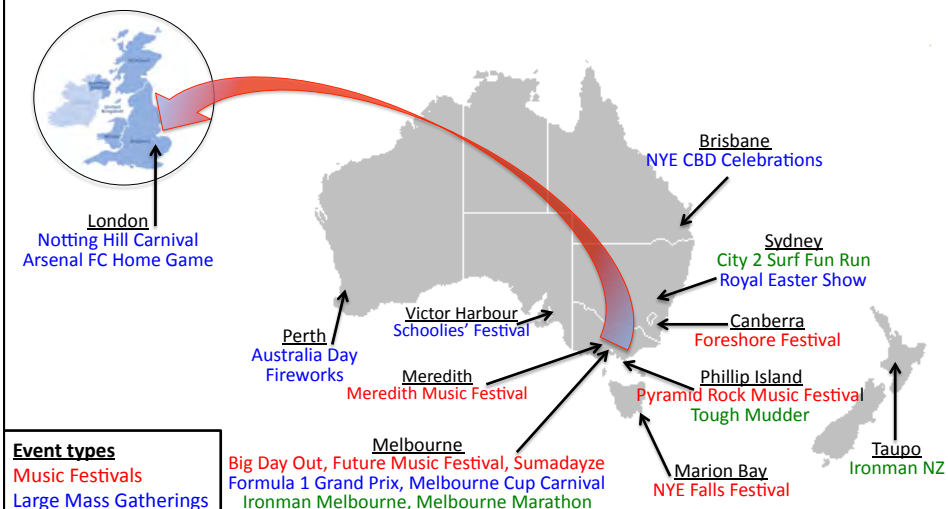
Dr Stephen Luke OStJ MAIES

State Coordinator – Operations
Emergency & Intensive Care Registrar
Deputy Field Emergency Medical Officer - Ballarat

Project Objectives

- Review health service delivery models at a range of events
  - Hospital & ambulance avoidance strategies
  - Health promotion & surveillance
  - Interface with local health & emergency services
- Develop guidelines for medical team deployments
- Improve recognition of St John Ambulance contribution to health service provision at local events & mass gatherings
- Establish framework for ongoing quantitative research

Events Attended



Event types
Music Festivals
Large Mass Gatherings
Endurance / sports

Health

Promotion
Provision
Protection

Health Promotion

- Best Practice
  - Negotiations with Event Organisers
  - Australian Guidelines
  - UK legislation (Hillsborough, 1989)
- Welfare
  - Reminders during clinical interactions
  - Safety aware members & commanders
  - Media: lead up & event day
- On-Site Surveillance & Services
  - Trend monitoring - regular updates, exceptional
  - SunSmart (Free Sunscreen! – Foreshore Festival, ACT)

Health Service Provision

- Integrated Service Delivery Model
  - First Aid
  - Response
    - Bicycle Emergency Response Team (BERT)
    - Vehicles
      - Buggies, ambulance, 4WD
      - Ambulance standard compliant
  - Health Professionals
    - Health Emergency Response Team (HERT)
    - Medical Assistance Team (MAT)
  - Command & Communications
    - Computer Aided Dispatch (CAD) system

Medical Assistance Team

- Medical Governance
  - No doctor, no MAT
  - Short Stay Model
- Clear Role Definition
  - Triage, Supervisor, Logistics
- Staffing
  - HP & Students
  - First Aid, Logistics & admin
- Mobile equipment
- Drugs & poisons licence

200 Vic Events & Counting…

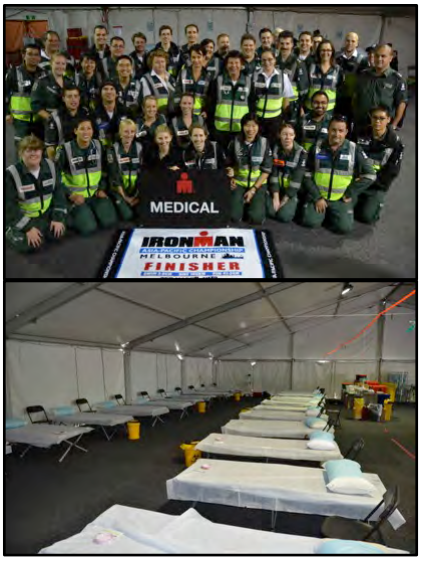
2004	2005	2006	2007	2008	2009	2010	2011	2012
2	3	20	23	23	31	43	39	18+

- Endurance events
- Marathons & “fun runs”
- Mass gatherings
- Music Festivals
  - Single day
  - Residential
- Regional & rural events
- Emergency Response
  - Whittlesea (Black Saturday)

Ironman Melbourne

St John Resources
- 7 First Aid Posts
- 10 Response crews
  - 5 mobile HERTs & 5 BERTs
- 2 Medical Assistance Teams
  - Start / Transition (Frankston)
  - Finish (St Kilda)
  - 22 HPs, 32 beds + chairs
- Command, comms, logistics

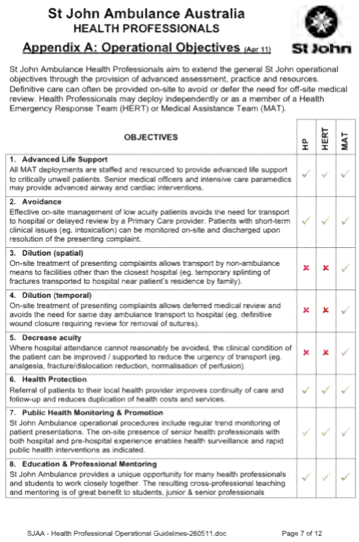
Statistics
- 1700 competitors
- 191 patients total
  - 64 first aid
  - 127 MAT
- 10 ambulance transports
  - 8 from MAT (6.3%)
  - 2 from course (fractures)



Health Service Provision

Health Professional
Operational Guidelines

- Explain service delivery models
- Role delineation
- Appendices
  - Operational Objectives
  - Medical Team Structure & Function
  - Extended Patient Care Principles



St John Ambulance Australia
HEALTH PROFESSIONALS
Appendix A: Operational Objectives (Apr 11)

St John Ambulance Health Professionals aim to extend the general St John operational objectives through the provision of advanced assessment, practice and resources. Definitive care can often be provided on-site to avoid or defer the need for off-site medical review. Health Professionals may deploy independently or as a member of a Health Emergency Response Team (HERT) or Medical Assistance Team (MAT).

OBJECTIVES	HP	HERT	MAT
1. Advanced Life Support All MAT deployments are staffed and resourced to provide advanced life support to critically unwell patients. Senior medical officers and intensive care paramedics may provide advanced airway and cardiac interventions.	✓	✓	✓
2. Avoidance Effective on-site management of low acuity patients avoids the need for transport to hospital or delayed review by a Primary Care provider. Patients with short-term clinical issues (eg. intoxication) can be monitored on-site and discharged upon resolution of the presenting complaint.	✓	✓	✓
3. Dilution (spatial) On-site treatment of presenting complaints allows transport by non-ambulance means to facilities other than the closest hospital (eg. temporary splinting of fractures transported to hospital near patient's residence by family).	✗	✗	✓
4. Dilution (temporal) On-site treatment of presenting complaints allows deferred medical review and avoids the need for same day ambulance transport to hospital (eg. definitive wound closure requiring review for removal of sutures).	✗	✗	✓
5. Decrease acuity Where hospital attendance cannot reasonably be avoided, the clinical condition of the patient can be improved / supported to reduce the urgency of transport (eg. analgesia, fracture/dislocation reduction, normalisation of perfusion).	✗	✗	✓
6. Health Protection Referral of patients to their local health provider improves continuity of care and follow-up and reduces duplication of health costs and services.	✓	✓	✓
7. Public Health Monitoring & Promotion St John Ambulance operational procedures include regular trend monitoring of patient presentations. The on-site presence of senior health professionals with both hospital and pre-hospital experience enables health surveillance and rapid public health interventions as indicated.	✓	✓	✓
8. Education & Professional Mentoring St John Ambulance provides a unique opportunity for many health professionals and students to work closely together. The resulting cross-professional teaching and mentoring is of great benefit to students, junior & senior professionals	✓	✓	✓

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1. Advanced Care

- Resuscitation
  - Life-saving interventions before ambulance transport
- Clinical assessment
  - Experienced doctors, nurses & paramedics
    - Often the same (or more senior) staff that would see patients if they were being paid to go to work!
  - Determine need / urgency for transport to hospital
  - Great results from teaching junior HPs & students!!
- Management examples:
  - Wound cleaning, antibiotics, suturing…
  - Fracture stabilisaton
  - Reduction of dislocated joints
  - Assessment & clinical clearance of potential spinal injuries

2. Avoidance

Some patients absolutely need to go to hospital

BUT

Some don't need to go by ambulance
and can safely be driven by friends/family

&

Many don't need to go at all!

Hospital Avoidance

City 2 Surf

- 85,000 running 14km run to Bondi beach
- 370 pts / 750 non clinical / 9 transports
- St John & NSW Health Field Hospitals
  - Annual emergency exercise
  - AIM: avoid transports to hospital

Finish line approach, City 2 Surf. Sydney

Tough Mudder

20km 28 obstacle commando course

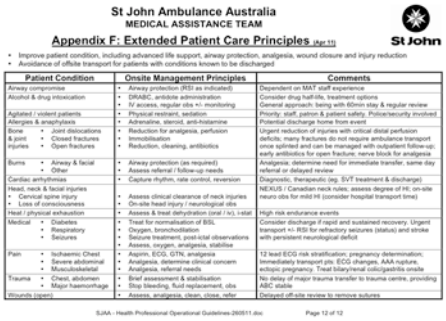
- Phillip Island, 90min drive to hospital
  - 16 dislocated shoulders reduced
  - Lots of suturing & plastering
  - No urgent ambulance transports

SJ & LSV members, Tough Mudder. Phillip Island

Statistics	US experience	Our data
Participants	6,000	22,500
Total patients	400	450 (127 MAT)
Transports	> 40 (10%)	3 (0.6%) (2.4% MAT)

3. Extended Patient Care

- Medical Short Stay Model
  - Discharging starts at / before arrival (pre-notification by radio)
  - We know how long most things should take to resolve
  - Work closely with ambulance to plan & coordinate transports
- Reduce patient acuity
  - Avoid or defer transport
- Before transport
  - Optimize treatment
  - Determine best destination
  - Write referral letter
  - Notify hospitals
- Extended monitoring in rural areas



St John Ambulance Australia
MEDICAL ASSISTANCE TEAM

Appendix F: Extended Patient Care Principles

- Improve patient condition, including advanced life support, airway protection, analgesia, wound closure and injury reduction
- Avoidance of offsite transport for patients with conditions known to be discharged

Patient Condition	Onsite Management Principles	Comments
Airway compromise	• Airway protection (RSI as indicated)	Dependent on MAT staff experience
Alcohol & drug intoxication	• DRABC, antidote administration • IV access, regular obs +/- monitoring	Consider drug half-life, treatment options General approach: being with 60min stay & regular review
Agitated / violent patients	• Physical restraint, sedation	Priority: staff, patron & patient safety. Police/security involved
Allergies & anaphylaxis	• Adrenaline, steroid, anti-histamine	Potential discharge home from event
Bone & joint injuries: • Joint dislocations • Closed fractures • Open fractures	• Reduction for analgesia, perfusion • Immobilisation • Reduction, cleaning, antibiotics	Urgent reduction of injuries with critical distal perfusion deficits; many fractures do not require ambulance transport once splinted and can be managed with outpatient follow-up; early antibiotics for open fracture; nerve block for analgesia
Burns: • Airway & facial • Other	• Airway protection (as required) • Assess referral / follow-up needs	Analgesia; determine need for immediate transfer, same day referral or delayed review
Cardiac arrhythmias	• Capture rhythm, rate control, reversion	Diagnostic, therapeutic (eg. SVT treatment & discharge)
Head, neck & facial injuries • Cervical spine injury • Loss of consciousness	• Assess clinical clearance of neck injuries • On-site head injury / neurological obs	NEXUS / Canadian neck rules; assess degree of HI; on-site neuro obs for mild HI (consider hospital transport time)
Heat / physical exhaustion	• Assess & treat dehydration (oral / iv), i-stat	High risk endurance events
Medical: • Diabetes • Respiratory • Seizures	• Treat for normalisation of BSL • Oxygen, bronchodilation • Seizure treatment, post-ictal observations • Assess, oxygen, analgesia, stabilise	Consider discharge if rapid and sustained recovery. Urgent transport +/- RSI for refractory seizures (status) and stroke with persistent neurological deficit
Pain: • Ischaemic Chest • Severe abdominal • Musculoskeletal	• Aspirin, ECG, GTN, analgesia • Analgesia, determine clinical concern • Analgesia, referral needs	12 lead ECG risk stratification; pregnancy determination; Immediately transport pts: ECG changes, AAA rupture, ectopic pregnancy. Treat biliary/renal colic/gastritis onsite
Trauma: • Chest, abdomen • Major haemorrhage	• Brief assessment & stabilisation • Stop bleeding, fluid replacement, obs	No delay of major trauma transfer to trauma centre, providing ABC stable
Wounds (open)	• Assess, analgesia, clean, close, refer	Delayed off-site review to remove sutures

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4. Dilution

For patients that need additional or ongoing medical care…

Temporal

- Delay transport to hospital
  - Reduce acuity
  - On-site extended care
- Delayed follow-up
  - GP follow-up (eg. sutures)
  - Non-urgent x-rays
  - Physiotherapy

Spatial

- Different destination
  - Alternative to closest hospital
    - Reduce local impact
    - Hospital closer to home
    - Better follow-up
  - Alternative to hospital
    - GP, practice nurse
    - Physiotherapist

5. Education

- Emergency Exercises
  - City 2 Surf (NSW Health)
  - Ironman NZ (Defence Medical Team)
  - Exercise equipment, systems & staff
- Our Members
  - Health Professionals
    - Junior staff develop skills
    - Out of hospital familiarisation
  - HP Students
  - First Aiders
    - See what happens to their patients
- Cross-professional mentoring

Resuscitation cubicle, Ironman NZ

1 of 2 NSW Health Field Hospitals, City 2 Surf

Health Protection

Facts

- Emergency departments are under constant pressure
- Ambulance resources are often stretched
- Health $$ are limited
- Mass gatherings can put an additional strain on local health resources
- Many patients that we see do not need to go to hospital

Strategies

1. Reduce off-site ambulance transports
   - Ambulance transport to on-site medical team
     - NHC, City 2 Surf, Schoolies, F1GP, Tough Mudder
     - All 999 calls within event footprint handled by event resources (NHC)
   - Alternative means of transport to hospital
     - St John Ambulance transport to hospital (NHC, Schoolies)
2. Reduce Emergency Department presentations
3. Cost savings
   - St John paid by event organisers (not tax payers)
   - Cost savings for each avoided ambulance transport / ED presentations

Source: The Age

Health Planning

- Minimise hospital impact & number of off-site ambulance transports
  - Strategic objective (NHC, City 2 Surf, Ironman NZ, St John Vic)
- Extra significance in rural areas
  - Finite ambulance & hospital capacity
  - Engage (convert) Event Organisers
    - Meredith Music Festival
- Engage hospitals
  - How should hospitals respond?
  - Is awareness enough?
  - Examples:
    - LAS-NHS teleconference for NHC
    - Ironman Melbourne (Event Organisers)
    - Ironman NZ, Falls Festival, City 2 Surf (NSW Health)

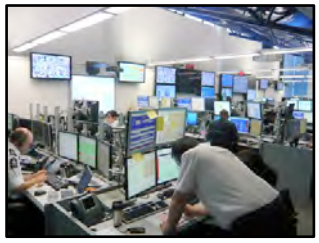

Notting Hill Carnival, London


Swim leg, Ironman NZ, Taupo NZ

Health Command

- Victoria (SHERP)
  - AV Health Commander
  - HIMT (F1GP, Melbourne Cup Carnival)
  - Agency Commanders
  - Minimal hospital engagement
- Notting Hill Carnival
  - Silver (Tactical) Command
    - Shared briefings, combined off-site EOC
  - Mobile Bronze (Operational) Command Team
    - LAS/SJA pair in each sector
  - Communications
    - Independent systems, shared access
    - LAS Allocator > notify hospitals of incoming pts
  - Regular scheduled briefings
    - Fixed agenda – used 2011 Melb Cup Carnival

Medical Compound, Melb Cup



LAS – SJ Offsite Communications, Notting Hill Carnival

Why St John?

- Experience
  - Tested model over 7 years. Proven to be safe. Sustainable
- Resources
  - Readily deployable, inventory refined for scope & capacity
- Motivation
  - We believe in our model & we know that it works
- Good planning & event day relationship with ambulance
- Importance of Volunteers in emergency health
  - Career & volunteer fire fighters have overlapping skill sets
  - You don't need to be paid to be professional

New Era EM…

- Hospital & ambulance demand is here to stay
  - Compounded by mass gatherings, mass casualty incidents
- SHERP – does it do what we need it to for major events?
- Out of hospital health service delivery
  - Regulation & clarification overdue. Not just first aid
- Health EM Resource Multipliers
  - Use of volunteers, ongoing support for standby capacity
  - Management of spontaneous volunteers
- Events as EM training ground
  - Build working relationships, staff training
  - Exercise & refine equipment & systems

Acknowledgments

Emergency Services Foundation
St John UK & London Ambulance Service
Ironman NZ Medical Director & Team
St John States & Territories
Event Command Teams
St John MAT staff
clinicians, logistics, administration & brains trust

sluke@stjohnvic.com.au