

# Operational aspects of health care delivery at World Youth Day 2008: Lessons learnt by an emergency management organisation

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## Summary

Hundreds of thousands of people attended World Youth Day 2008 [WYD08] in Sydney. Pilgrims from over 170 nations attended the week-long event (15-20<sup>th</sup> July) culminating in one of the largest mass gatherings in Australia. St John Ambulance Australia was the primary health care agency chosen for the provision of health services to WYD08 participants and officials. WYD08 posed a number of challenges during the planning and deployment stages of operational activities; due to the extremely large number of participants and varying location of WYD08 events. This article provides an overview of WYD08, the involvement of an emergency management organisation with a focus on their experiences and lessons learnt. These experiences and lessons are useful for any health care agency or emergency management organisation, tasked with planning similar large-scale mass gathering events.

## Keywords

Mass gathering, world youth day, St John Ambulance Australia

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## INTRODUCTION

World Youth Day 2008 was the largest mass gathering in Australia's history. It was staged over six days at major outdoor venues across Sydney, attracting 223,000 registered pilgrims of various ages. St John Ambulance Australia was the emergency medical service chosen for the provision of health services to these pilgrims and event organisers. This paper outlines the purpose of WYD and its background, the relationship between St John as an emergency medical service and WYD, the planning process for health care at WYD, the deployment of primary health care resources, and the lessons learnt from the operational aspects of the mass gathering. Such lessons will provide a useful reference for volunteer emergency medical services entrusted with the responsibility of delivering first aid and clinical care in similar circumstances.

## What is World Youth Day?

World Youth Day is a youth-oriented Roman Catholic Church event first held in 1984 (1). Although WYD celebrates youth and Catholicism, the church invites youth from other faiths and denominations to participate in the weeklong festivities. The event is, effectively, an invitation from the Pope to the youth of the world to celebrate their faith and is usually focused upon a specific theme. WYD is an annual event, held in the Vatican. However, every three years, the event is hosted internationally on a large scale. In 2005, Pope Benedict XIV announced in Cologne that WYD08 would be held in Sydney, Australia. Activities were planned across the nation with main celebrations to be held in Sydney. The main events on the programme were staged across six days at major outdoor venues over Sydney. Participants for this event included 223,000 registered pilgrims of whom 110,000 were foreign pilgrims representing 170 nations. The majority were young adults and teenagers. As such, WYD08 was the largest event held in Australian

history (2). In 2006, The WYD Local Organising Committee and the WYD Coordination Authority were established. The WYD Local Organising Committee's main role was to provide recommendations and advice and assistance to WYD. The WYD Coordination Authority was set up by the New South Wales (NSW) State Government to provide the overall coordination of government agencies in the planning, coordination and delivery of government services to WYD08 (3).

## World Youth Day and Health Delivery

Mathematical predictive models to estimate the emergency medical service requirements have been published and validated, but remain underutilized. These models outline a number of characteristics or elements of a mass gathering that contribute to the rate of patient presentations requiring transport to hospital (4). Such characteristics include; event type, crowd mood and behaviour, age of participants, average temperature, availability and use of drug/alcohol (4-7).

World Youth Day 2008 was not a typical mass gathering event, in that it featured a number of individual events which differed in terms of access and geographical distribution (see Figure 1). As a Catholic pilgrimage the incidence of drug and alcohol related presentations were expected to be low or non-existing (as compared with music festivals, for example). Whilst it shares features in common with other religious pilgrimages (e.g., the Islamic Hajj or the Hindu Magh Mela at Allahabad, India) it is also distinctive. For example, WYD traditionally attracts youth, whereas the Hajj attracts all ages, but predominately non-youth participants due to the cost of travel from low-socioeconomic backgrounds, with minimal pre-event health plans (8). Similarly, it is distinctive from the Magh Mela which is a one-month long event in which pilgrims live in a tented encampment on the banks of the Ganges with limited facilities. As with other mass gatherings there are various health risks, yet also opportunities for a strong sense of well-being associated with participation in a large-scale collective event (9).

On-site medical units at WYD08 were staffed by health professionals from NSW Health. In total, 465 patients presented to these units for ongoing assessment and management (10). During WYD08, 227 pilgrims had point-of-care respiratory specimen sampling as a result of presenting with influenza-like symptoms. Of these, 95 pilgrims had confirmed influenza infections (11). The patient presentations to surrounding hospital

emergency departments from pilgrims from WYD08 highlighted that the presentations did not result in hospital overcrowding. The majority of presentations were of a minor nature with only small numbers requiring hospital admission. Pilgrims were less likely to require admission than other patients. Of those pilgrims that required admission, the majority were admitted for less than 24 hours (12).

## World Youth Day and St John Ambulance

St John Ambulance Australia is an emergency management organisation, primarily consisting of volunteers. The organisation conducts a multiplicity of community-based activities, with a focus on emergency medical services during mass gathering and emergency situations. St John has previously been the emergency medical service for mass gathering events in Australia, such as the Sydney 2000 Olympic Games and more recently the 2006 Commonwealth Games. St John has experience in the planning and execution of health support at large events, and was chosen as the emergency medical service provider for WYD08. The St John volunteer capacity and health care support is outlined in Table 1. Note that the volunteering numbers seem misrepresented for New South Wales. This is partly attributed to a number of large events in NSW such as WYD08. Traditionally, Victoria would have had a significant amount of service hours; however, their data is missing from the cited annual report.

As the largest provider of mass gathering and emergency primary health care in Australia, combined with a strong history and focus of delivering health care for complex local and international mass gatherings, St John was approached by WYD08 in early 2006 to be the official provider of an emergency medical service at this event.

	Volunteers	Divisions	Service Hours	Patients
<b>Australia</b>	9731	377	381,869*	71,153
<b>New South Wales</b>	3,112	107	327,320	24,526

Table 1: Number of volunteer, divisions, service hours and patients treated in 2008 (13-14).

Legend: \* Service Hours do not include Victoria

## Pre-Event Planning

St John Ambulance Australia has experience with the planning and execution of large national and international events. However, in Australia's history there had never been an event of the same size and complexity of WYD08; as such WYD08 posed a substantial health care delivery

challenge. When compared to other large events such as New Year's Eve, Sydney, 2008 (see Table 2) which has a static population for a short period of time within a defined geographical space. WYD08 had multiple events within the larger event, was held over numerous days. Due to the magnitude and complexity of WYD08, emergency management principles and risk management strategies were employed and adhered to throughout the planning and execution processes. The planning process included determining service delivery requirements by; drawing on previous experience, utilising existing predictive models, developing a service delivery proposal, instituting a well-defined governance structure and establishing effective working groups.

The initial challenges in the planning phase for St John was to determine the service requirements for the event and make appropriate assessments which would later inform decisions in the delivery of service. A literature review was undertaken to determine the experiences of others in planning similar events. However, there was a paucity of information relating to the emergency medical service provision at previous WYD or other religious events at the time of pre-event planning. Although dated, one report from the 1993 WYD in Denver provided some limited but useful information about the pre-hospital response (17). However, each mass gathering event is different and has its own unique challenges and risks (18). Event planning is traditionally based on previous experience with the event and the organisations established policies and traditions<sup>4</sup>. More recently, it has been suggested that event organisers for large mass gatherings should consider strategies for managing infectious diseases in their health plan. A health plan would then include management of communicable diseases that are transmitted faecal-oral, respiratory, vector-borne, zoonotic, sexually transmitted and blood-borne pathogens (19).

A combination of large event experience together with the application of predictive models for health care delivery resulted in St John developing the 'WYD08 Service Proposal' for WYD08 emergency medical service requirements. The WYD08 Service Proposal assisted planning efforts by defining the venues for WYD08, the individual events along with their specific locations, dates, operating times, expected crowd numbers and expected patient volumes. The WYD08 Service Proposal defined the number of first aid posts to be furnished for each venue along with the number of emergency medical service volunteers St John would provide. Additionally, equipment and transportation requirements were detailed at length (3).

Early in the planning phase of the project, St John established a project governance structure which was responsible for monitoring and controlling the project (see Figure 2). The governance structure saw a combination of paid and volunteer managers working cohesively. The project structure was heavily biased towards volunteer participation; this is consistent with an organisation predominantly comprised of volunteers.

From within the governance structure, working groups were responsible for designing, coordinating and executing health service delivery. Equally, working groups were responsible for routinely re-assessing proposed services and assisting with the development of communication strategies to engage volunteers. The Working Groups convened focused on the following areas:

- Accommodation
- Bicycle Emergency Response Team (BERT)
- Communications
- Emergency Management
- Health Care Professional Support/Coordination
- Logistics
- Peer Support / Member Welfare
- Research
- Training
- Vehicle Support / Transport
- Volunteer Recruitment and Coordination
- Cadets/Youth Engagement

Working groups and committees met frequently throughout the planning phase of the project and meeting frequency increased as the event drew closer. The co-ordination of meetings themselves was instrumental in planning, monitoring progress and delivering WYD08 in accordance with the contract and WYD08 Service Proposal.

## Deployment

As part of the greater New South Wales Health Department deployment, the service delivery model saw St John deploy:

- Static first aid posts,
- Bicycle emergency response teams,
- Patient retrieval medicabs,
- Medical centres,
- Communication teams, and
- Command teams.

Mass Gathering Event	Number of Days	Participants	St John Volunteers	Patients	Ambulance Referrals
Sydney Olympics, 2000	28	> 1,000,000	800	14,035	203
Brisbane Show 2008	10	>500,000	200	1000	30
Royal Easter Show, Sydney, 2008	16	> 1,000,000	1059	2376	46
New Year's Eve, Sydney, 2008	1	800,000 - 1,000,000	160	367	16
City to Surf Fun Run, Sydney, 2008	1	65,000	185	441	4

Table 2: Recent mass gatherings in which St John has been a primary provider of first aid and primary health care (15-16).

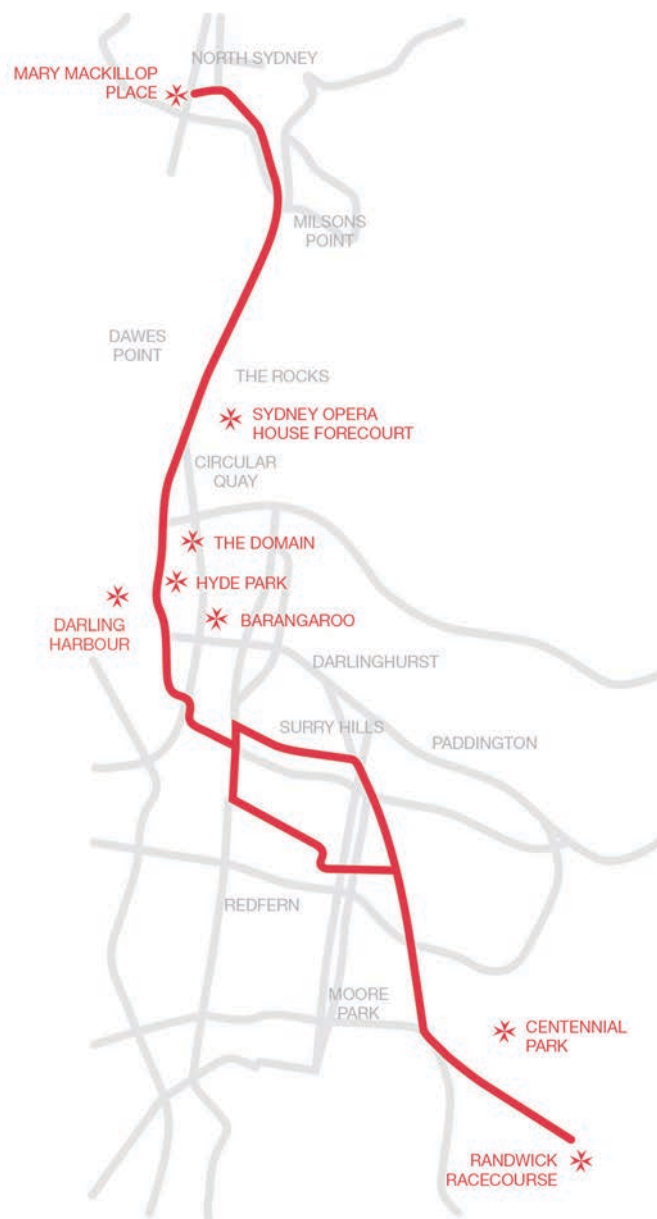


Figure 1: Geographical Distribution of WYD08 Events Requiring St John Presence

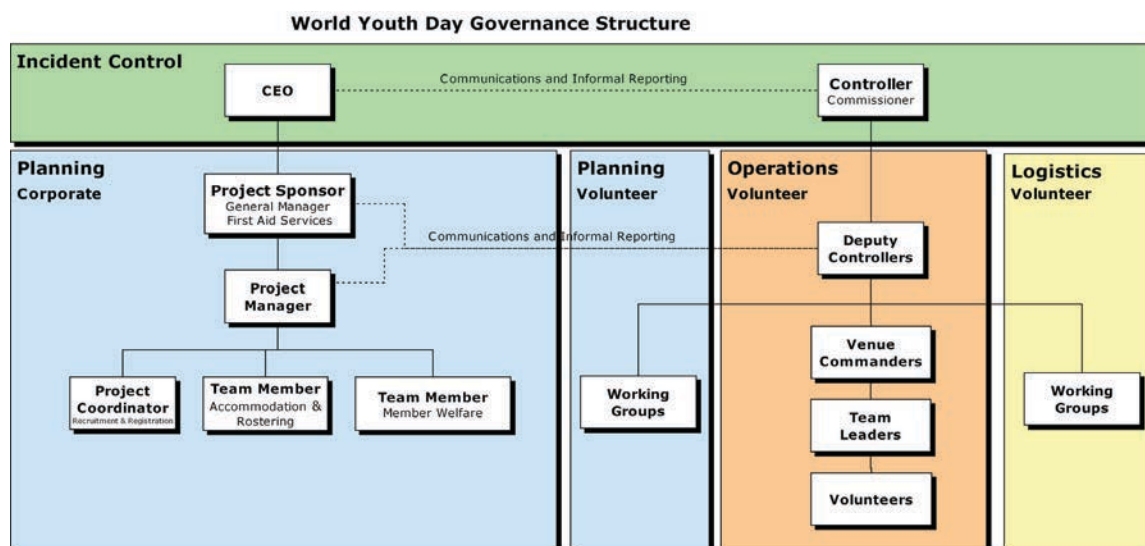


Figure 2: World Youth Day Governance Structure

In total 738 volunteers were deployed throughout the WYD08 event. Of the 738 volunteers, 125 were interstate or international members, 85 members were aged less than 18 years of age and 10 were salaried staff of St John. A total of 2,889 patients were treated and 26,500 people presented for minor requests such as band-aids, water and sunscreen. The majority of presentations occurred at Barangaroo and Randwick Racecourse. Both Barangaroo and Randwick Racecourse had significant cornerstone events for WYD08, such as the Opening Mass, Papal Arrival and Final Mass respectively (see Figure 1). As such these events had large attendance and subsequently a larger proportion of patient presentations. Table 3 provides information for each venue.

St John worked closely with other agencies, such as NSW Health, NSW local hospitals and NSW ambulance service in the planning of this event. At Randwick Racecourse, those patients requiring ongoing observations or management were referred to NSW health that had an onsite health facility. In particular those patients with influenza-like symptoms were referred to this facility.

## Key Lessons

As with any emergency management organisation, St John critically reviews their planning and execution of operational events. When critically reviewing the involvement of St John in WYD08, two themes were prominent in the lessons learnt: project management and human resource management. The following outlines the importance and applicability and appropriateness of project management for emergency management organisations involved with an event such as WYD08 and would be useful for emergency medical service providers embarking on similar-sized mass gatherings. Additionally, human resource management

lessons learnt will be outlined, it is critical to have accurate and correct when an emergency management organisation comprises largely of volunteers.

## Project Management

When first embarking upon planning for an event the size of WYD08, it is important that the scope of the event and the services to be provided are well understood (20). As described in the Project Management Body of Knowledge (21) *"Defining and managing the project scope influences the project's overall success"*. Any organisation contemplating tendering their services for an event the size of WYD08 should devote considerable energy to defining scope.

In the context of WYD08 and St John, scope definition was critical given the size of the event and the likelihood that any scope creep would have a significant impact upon the ability of St John to meet its obligations. When setting scope, it is important that all parties understand not only their obligations but also the well-defined penalties for failing to meet them. This is an important consideration for any emergency management organisation, with any event regardless of its size and complexity. For emergency medical service providers, a failure of organisers to deliver promised infrastructure may potentially impact service delivery. Therefore, it is important at the time of signing the contract that contingencies for non-delivery are considered.

The development of a robust project governance structure and the appointment of an experienced project manager were important contributors to the successful delivery of the project. The appointment of an individual to the role of project manager should only be made after careful scrutiny of the management skills demonstrated in



past projects of similar complexity and magnitude. It is desirable that people be recruited as far as possible from within the organisation from personnel with proven management skills. Where this is not possible, co-opting from other sources should be an option given serious consideration and exercised to ensure that intended outcomes are matched by sound planning and effective implementation strategies.

Lastly, much of the planning for WYD08 was performed by way of co-ordination with other agencies. It is important to be mindful that dependence upon other agencies may lead to under or over-servicing by the emergency management medical service particularly where other agencies have less robust project management processes.

## Human Resources Management

St John comprises a large volunteer workforce supported by a paid corporate team. The project review highlighted that additional paid staff would have been beneficial. During the planning phase, volunteer managers and working groups were required to take on unpaid work, of a volume greater than normal, which led to an increased potential risk that burnout of volunteers may have occurred and experienced volunteers may have left the project team or organisation. Emergency management organisations should consider the recruitment of senior volunteer members into paid positions for the duration of the project, and thus leveraging on their organisational corporate experience, knowledge and expertise. Additionally, it is important to consider staff turnover and succession planning early in the planning of an event, as St John experienced staff turnover across both paid and volunteer staff during the planning phase of WYD08. Therefore, given the substantial duration of the planning phase in major events, emergency management organisations should consider the succession planning and robust processes for both paid and volunteer staff, to ensure the project plan continues to progress and corporate knowledge is not lost.

It is important that volunteer recruitment for large events is not underestimated. Recruiting the high number of volunteers took longer than planned and this, in turn, led to less time being available for coordinating, rostering and general implementation work. During the recruitment phase, there was significant debate about the relative importance of achieving contractual member numbers or ensuring even skill mix across venues. During WYD08, St John was contractually obligated to providing a minimum level of staffing with no reference to skill mix. The balance of skill mix and minimum staffing targets

needs consideration and careful planning to ensure appropriate recruitment strategies are implemented. During the event, registered members frequently cancelled, transferred shifts or, in some cases, failed to attend. Volunteer emergency management organisations should be aware of the rostering challenges of large events, and identify contingencies in their recruitment strategies.

Emergency management organisations should have an early and clear direction on human resource management. A human resource strategy must focus on securing appropriate numbers of staff, ensuring recruitment strategies achieve the desired goals whilst being flexible enough to deal with the last minute challenges volunteer workforces present.

## CONCLUSION

World Youth Day 2008 was the largest mass gathering event in Australia's history. St John was contracted to provide emergency medical services to WYD08 as the organisation had previous experience as a mass gathering emergency medical service provider at previous large events. Planning for an event the size of WYD08 presented significant challenges with no possibility of reference to a similar event in Australia, compounded by the paucity of literature available with respect to clinical care and previous WYD events. Lack of information, the uniqueness of the event and no historical context made workload prediction and service planning challenging.

During the planning and event itself, there were many lessons learnt, which are applicable to any emergency management organisation considering their involvement in an event regardless of its size or complexity. The key lessons focused heavily on project and human resource management. Of importance was a well-defined service delivery scope, and managing this scope through a robust governance structure. In any volunteer emergency management organisation, human resource management is a challenge. WYD08 clearly highlighted the need to ensure an effective balance of paid and volunteer staff. Whilst it is easy to rely heavily on volunteer staff for many volunteer based organisations, organisations must be aware of member burn out. As such, it is important to plan for staff turnover to ensure the project plan progresses and corporate knowledge is maintained.

Overall, WYD08 provided an excellent experience for St John as an organisation and for individual members involved at the various levels of planning, execution and service delivery. The event provided a great opportunity for developing approaches to mass gathering event planning

which makes best use of paid and volunteer staff and equally provided the experience to deal with similar large scale events in the future.

Venue	Events	Dates of Operation	Times of Operation	First Aid Posts	St John Staff/Shift	Patients
Barangaroo	Opening Mass Papal Arrival Youth Festival Stations of the Cross	Tuesday 15 to Friday 18 July 2008	11:00 - 23:00	12	80	742
Darling Harbour	Ingress and Egress to Barangaroo Youth Festival Stations of the Cross	Tuesday 15 to Friday 18 July 2008	12:00 - 22:30	5 including a St John Advanced Casualty Medical Centre	40	151
CBD Hyde Park and St Mary's Cathedral	Stations of the Cross	Tuesday 15 to Friday 18 July 2008	11:00 - 23:00	3		
CBD Domain	Opening Mass Papal Arrival Youth Festival Stations of the Cross	Tuesday 15 to Friday 18 July 2008	11:00 - 23:00	2	23	222
CBD Sydney Opera House	Opening Mass Papal Arrival Youth Festival Stations of the Cross	Tuesday 15 to Friday 18 July 2008	11:00 - 23:00	1		
Pilgrim Walk - Harbour Bridge and CBD	Pilgrim walk across the bridge and from Central Station	Saturday 19 July 2008	05:00 - 19:30	8	95	60
Randwick Racecourse	Overnight Vigil Final Mass	Saturday 19 to 20 July 2008	06:00 (19/07/08) - 22:30 (20/07/09)	11	300	1561
Centennial Park	Final Mass	Sunday 20 July 2008	06:00 - 16:00	14		4
Randwick Ingress and Egress	Vigil and Final Mass	Saturday 19 to 20 July 2008	20:00 (19/07/08) - 23:00 (20/07/09)	3	45	72
Mary Mackillop	Special Exhibition	Sunday 13 <sup>th</sup> July to Sunday 20 <sup>th</sup> July	06:30 – 22:30	1	4	30

Table 3: Venue, staffing and patient presentations (3).

## CONFLICT OF INTEREST

The authors declare they have no conflicts of interest.

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