

**Conclusions:** Improved mass-casualty management response is achieved where agencies act in an integrated manner using an all-hazards approach. This is evident particularly with agencies that work well together on a daily basis.

**Keywords:** all-hazards approach; command; control; coordination; emergency planning; hospitals; integrated incident response; legislation; mass casualties; remote; resources; rural

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### Using Tele-Nursing Services for Pre- and Post-event Advice and Syndromic Surveillance

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Telephone health, triage, and advice services, supported by sophisticated decision-support systems, are operating in many developed countries. In New Zealand, the entire country is covered by one 24-hours-a-day, tele-nursing, triage, and advice service. Such services are useful tools for monitoring and responding to bioterrorism and natural disasters. Healthline, New Zealand's tele-nursing triage and advice service, was used by the Ministry of Health to provide advice and decision-support systems to the community during the 2003 SARS alert period and as a means of access to health advice for populations isolated during the large scale floods in 2004. Assuming telephone services are operating, this service could be extended to the South Pacific nations during their frequent natural disasters.

Tele-nursing services create an opportunity for faster public health symptom surveillance. Syndromic surveillance is used for identifying an increase in frequency of a disease above the background pattern. In the past, outbreaks have been recognized from accumulated reports of notifiable diseases through voluntary reporting by sentinel practices and laboratories, or by alert clinicians bringing clusters of diseases to attention.

Currently, telephone triage services and the increasing availability of electronic health data combine to allow new surveillance systems to detect outbreaks earlier. An analysis of telephone triage data collected for public health, early warning systems found that data from telephone triage calls were one to five weeks ahead of surveillance data collected by the Center for Disease Control using traditional reporting methods. In England and Wales, call data (site, symptom, age-group, call outcome) on 10 key symptoms are transferred every weekday from 23 call centers to the Health Protection Agency at West Midlands for this purpose.

A recent bioterrorist study in the United States found that 87% of the respondents said they would want to talk directly with someone who can give them information or advice, or help them decide what to do so that they can make the best decisions for themselves and their families. People wanted their doctor or other health professional to be trained in advance to be able to provide the decision-making support they needed. A tele-nursing triage and advice service located outside of the danger area and staffed by nurses is placed ideally to provide advice to the community during a bioterrorist event. Briefing updates, consistent care protocols, and modifications to decision-support systems can be updated and controlled centrally, and

records of call types and caller location can be quickly collated for the controlling authorities.

**Keywords:** advice; call; Healthline; New Zealand; response; service; tele-nursing

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### "Hotch Potch or High Performance"—Aeromedical Services in Queensland, Australia

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Queensland is Australia's second largest State, covering an area of >1.7 million km<sup>2</sup>. With a coastline of more than 13,000 kilometers (8,078 miles) and a highly decentralized population approaching 4 million people, aeromedical services play a major role in the provision of emergency medical and disaster response services to this community.

Aeromedical services in Queensland include both fixed and rotary-winged operations, which are provided by an eclectic mix of State owned and operated services, community-based, non-profit organizations, contracted services, and the Royal Flying Doctor Service. With a fleet of 10 fixed-wing and 11 rotary-wing aircraft, almost 20,000 flying hours are undertaken each year in support of aeromedical operations.

Delivering these services in a coordinated and integrated way has proved quite complex. However, following a spate of incidents including two helicopter crashes that claimed a total of eight lives, aeromedical operations in the State faced a crisis of confidence. In response to these concerns, Queensland has now developed an integrated, efficient, and safe model for the provision of aeromedical services across the entire State.

This presentation examines the experiences and lessons learned in Queensland in developing a coordinated, safe, and effective aeromedical and air rescue network. It describes how these services have been effectively integrated under the Queensland Emergency Medical System (QEMS), a collaboration between the Queensland Ambulance Service (QAS) and the Queensland Department of Health. It examines the key characteristics required for safe and efficient aeromedical operations and the role of the QEMS Coordination Center in ensuring that aeromedical operations are delivered in a manner that achieves good patient outcomes while simultaneously respecting the risks inherent in aeromedical service delivery.

**Keywords:** aeromedical; Australia; emergency medical services; fixed-wing; helicopters; operations; Queensland; rotary-wing

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### Medical Assistance for Train Explosion Disaster in North Korea

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**Introduction:** A massive explosion occurred at noon on Thursday, 22 April 2004 at Yongcheon railway station in