

Terrorism in Japan

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Abbreviations:

DMAT = disaster medical assistance team

PPE = personal protective equipment

SARS = Severe Acute Respiratory Syndrome

US = United States of America

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Abstract

Although the 1995 Tokyo subway sarin attack probably was the most widely reported terrorist event in Japan to date (5,500 injured, 12 dead), the country has suffered numerous other large terrorism-related events in recent decades, including bombings of the headquarters of Mitsubishi Heavy Industries in Tokyo in 1974 (207 injured, 8 dead), the Hokkaido Prefectural Government office building in Sapporo in 1976 (80 injured, 2 dead), and the Yosakoi-Soran Festival in Sapporo in 2000 (10 injured, none dead). Japan also has experienced two other mass-casualty terrorist events involving chemical releases, including the 1994 Matsumoto sarin attack (600 injured, 7 dead) and the 1998 Wakayama arsenic incident (67 injured, 4 dead).

Until 1995, emergency management in Japan focused on planning and preparedness at the local level for the frequent disasters caused by natural events. Since that time, substantial progress has been made in advancing emergency planning and preparedness for terrorism-related events, including the designation of disaster centers in each prefecture, the implementation of several education and training programs for nuclear, biological, and chemical terrorism, and the establishment of a national Antiterrorism Office within the Ministry of Health, Labor, and Welfare.

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Introduction

Japan, an island nation east of the Korean peninsula, has a current population of 127 million in an area slightly smaller than that of California (Figure 1).¹ Almost six decades after its defeat in World War II, Japan is now one of the economic powers of the developed world and one of three democracies in northeast Asia.

Japan also is one of the most peaceful countries in the world, owing to its 1947 Constitution, which renounced the right to use or threaten force as a means of settling international disputes. As the only country to have suffered a nuclear weapons attack, Japan has been a major proponent of nuclear non-proliferation and arms control, ratifying the Nuclear Non-Proliferation Treaty in 1976 and the Comprehensive Test Ban Treaty in

1997. Japan also is a state party to both the Chemical Weapons Convention and the Biological and Toxin Weapons Convention.

On 11 September 2001, Japan joined the world in disbelief as two hijacked aircraft were flown into the twin towers of the World Trade Center in New York City and a third into the US Pentagon, just outside of Washington DC. A few weeks later, the country was shocked again by the intentional release of anthrax along the eastern US. These events not only stirred up memories of Tokyo in 1995, but also served notice that a new era of terrorism was underway in which the sarin attack only was the beginning.

Burden of Terrorism in Japan

Like many countries, Japan has expe-

Date	Event Type	City	Site	Number injured	Number dead	Comments
Jan 1990	Bombing	Tokyo	Imperial palace	0	0	Home-made rockets; Japanese Red Army
Jan 1990	Bombing	Kyoto	Imperial palace	0	0	Home-made rockets; Japanese Red Army
Jan 1990	Shooting	Nagasaki	Prefectural office bldg	1	0	Victim - Mayor of Nagasaki; Seikijuku
May 1990	Bombing	Nagoya	South Korean community building	0	0	Sekihotai
Nov 1990	Bombing	Kobe	US Consul General's home	0	0	2 home-made grenades; Chukaku-Ha
Nov 1990	Bombing	Atsugi	USN Air station	0	0	Rockets; Chukaku-Ha
Nov 1990	Bombing	Tokyo	Tokyo police dormitory	7	1	Kakurokyo Hazama-Ha
Feb 1991	Bombing	Yokohama	USN residential area	0	0	Chukaku-Ha
Aug 1991	Stabbing	Tsukuba	Tsukuba University	0	1	Japanese translator of Salmon Rushdie's Satanic Verses stabbed
Dec 1991	Arson	Tokyo	USN base	0	0	Vehicles attacked
Jan 1992	Bombing	Tokyo	US Embassy housing	0	0	Incendiary device not detonated
Oct 1992	Bombing	Tokyo	Peruvian Embassy	0	0	Not detonated
Aug 1992	Arson	Tokyo	Prime Minister's home	0	0	Truck
July 1993	Bombing	Yokota	USAF base	0	0	2 home-made rockets; Kakurokyo
July 1993	Bombing	Osaka	UN Environment Program site	0	0	Home-made bomb; Chukaku-Ha
July 1993	Bombing	Zama	US Army base	0	0	4 home-made rockets
Oct 1993	Arson	Tokyo	Russian Embassy	0	0	NA
June 1994	Chemical	Matsumoto	Judicial dormitory	600	7	Sarin solution; Aum Shinrikyo
Dec 1994	Chemical	Osaka	Street	0	1	VX exposure; Aum Shinrikyo
Jan 1995	Chemical	Tokyo	Private home	1	0	VX exposure; Aum Shinrikyo
Mar 1995	Chemical	Tokyo	Tokyo subway	5,500	12	30% sarin solution in plastic bags; Aum Shinrikyo
May 1995	Chemical	Tokyo	Tokyo subway	3	0	Device with sodium cyanide and sulfuric acid found in restroom at Shinjuku Station (Marunouchi line); Aum Shinrikyo
May 1995	Bombing	Tokyo	Narita Airport	0	0	Pipe bomb with metal additives found in restroom
May 1995	Bombing	Tokyo	Government office	1	0	Letter bomb to governor of metropolitan Tokyo; injured secretary; Aum Sinrikyo
July 1995	Chemical	Tokyo	Tokyo subway	0	0	Devices with sodium cyanide and sulfuric acid found in restrooms at Kayaba-cho, Tokyo, Ginza subway stations and Shinjuku JR Station; Aum Shinrikyo
Nov 1995	Bombing	Sagamihara	US military housing complex power pylon	0	0	NA
Jan 1998	Hostage-taking	Tokyo	NA	0	0	Hostage – Finance Ministry official released
Feb 1998	Bombing	Tokyo	Narita Airport	1	1	Mortars fired onto runway Chukaku-Ha
Feb 1998	Arson	Tokyo	Transportation Ministry official's home	0	0	
22 Apr 1998	Bombing	Kisarazu	Chiba Prefect official's home	0	0	Related to Narita Airport expansion; Chukaku-Ha
June 1998	Bombing	Tokyo	3 Narita Airport buses	0	0	Incendiary bombs; Chukaku-Ha
July 1998	Chemical	Wakayama	Summer festival	67	4	Food contamination with arsenic
July 1998	Bombing	Yokohama	Transport Ministry official's home	1	0	
July 1999	Hijacking	Aircraft from Tokyo to Sapporo	Aircraft landed in Tokyo	0	1	Pilot stabbed; 1 hijacker

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Table 1—Terrorist events in Japan 1990–1999 (NA = not applicable; US = United States of America; USAF = United States Air Force; USN = United States Navy)

Date	Event Type	City	Site	Number injured	Number dead	Comments
June 2000	Bombing	Sapporo	Odori Park	10	0	Home-made, nail bomb
Aug 2001	Bombing	Tokyo	Japanese Society for History Textbook Reform building	0	0	Revolutionary Army
Oct 2001	Bombing	Kyoto	Chiba Prefect official's car	0	0	Related to Narita Airport expansion
Oct 2001	Bombing	Okinawa	US Marine base	0	0	
Jan 2001	Bombing	Tokyo	US Embassy	0	0	Gasoline bomb
Aug 2002	Bombing	Tokyo	Auditor's car	0	0	Related to Narita Airport expansion
Oct 2002	Bombing	Tokyo	Myanmar Embassy	0	0	Letter bomb not detonated
2002	Bombing	Yokohama	Park near US Army base	0	0	Revolutionary Army
Nov 2002	Bombing	Osaka	Japan Self-Defense Ground Forces base	0	0	Revolutionary Army

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Table 2—Terrorist events in Japan since 2000 (US= United States of America)



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Figure 1—Map of Japan and surrounding countries (reprinted with permission)



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Figure 2—Front page of Hokkaido News on 31 August, 1974 showing the scene of the Mitsubishi Heavy Industries bombing



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Figure 4—Nakamura Hospital (Sappora) response to the Hokkaido Prefectural Government Building bombing in 1976

rienced the effects of terrorism for many decades. From 1969 to 1989, >200 domestic bombings occurred, while from 1978 to 1990, about 700 terrorism-related arson attacks took place (many using incendiary devices, such as Molotov cocktails).² Selected terrorist events in Japan since 1990 are listed in Tables 1 and 2.³⁻¹¹

The vast majority of terrorist attacks in Japan have been carried out by domestic terrorists. These groups have spanned the political spectrum, ranging from the ultra left (e.g., Chukaku-Ha) to the far right (e.g., Seikijuku). One leftist group, the Japanese Red Army, not only conducted terrorist attacks inside Japan, but also exported terrorism to a number of other countries during the 1970s and 1980s



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Figure 3—Scene of the Hokkaido Prefectural Government Office Building bombing in 1976

(Table 3).^{4,5,12,13} In most cases, terrorism in Japan has been related to political opposition to various laws or policies of the Japanese government or practices of Japanese corporations. For example, opposition to the continued presence of US military forces in Japan or the expansion of the Narita Airport outside Tokyo spawned a number of terrorist attacks in the 1990s (Table 1). In some cases, terrorism was rooted in fringe religious beliefs. One of the most notorious terrorist groups in Japan in the 1990s was the Oumu religious cult, better known to the West as Aum Shinrikyo, which aimed to not only take over Japan, but also the world. In some cases, the exact motivation remains unknown (although the events still can be categorized as acts of terrorism).¹⁴

The targets of these terrorist attacks frequently were facilities or venues with political, commercial, or symbolic value to their community. In all cases, the victims were non-combatants, who at the time of their attack were involved in mundane activities that characterize modern life—sleeping in bed, commuting to work, sitting at a desk, or celebrating at a festival.

The majority of terrorist events during the past decade involved the use of explosive devices—bombs, rockets, mortars, or incendiary devices (Tables 1 and 2). Only events by Aum Shinrikyo, with its substantial infrastructure dedicated to the research and development of chemical warfare agents, deviated from this trend.

Numerous attacks in the past decade produced few, if any, injuries suggesting that many attacks were designed to intimidate, rather than produce massive numbers of casualties. Because events that produce multiple or mass casualties also produce the greatest challenge for emergency management systems, we provide details of some of Japan's larger terrorist incidents below. The largest of these events, the 1995 Tokyo subway attack, almost defines terrorism, since an estimated 80% of the 5,500 persons affected had no physical injuries, but fled to hospitals with anxiety, fear, and other symptoms of terror.¹⁵

Mitsubishi Heavy Industries Bombing

On 30 August 1974, a bomb exploded on the sidewalk outside the main office building of Mitsubishi Heavy Industries

Date	Event Type	City	Site	Number injured	Number dead	Comments
Mar 1970	Hijacking	Aircraft in Japan	Aircraft flown to North Korea	0	0	Hostages released in South Korea
May 1972	Mass shooting	Tel Aviv	Lod Airport	78	26	Shootings and grenades 3 terrorists total; 2 terrorists died 16 victims were Puerto Ricans on pilgrimage
July 1973	Hijacking	Aircraft from Amsterdam to Tokyo	Aircraft flown to Banghazi, Libya	0	1	Hostages released, plane exploded; 1 terrorist died In conjunction with Palestinian terrorists
Aug 1975	Hostage taking	Kuala Lumpur	US Consulate	0	0	52 hostages released
Aug 1976	Mass shooting	Istanbul	Istanbul Airport	20	4	In conjunction with Popular Front for the Liberation of Palestine terrorists
Sep 1977	Hijacking	Aircraft from Paris to Tokyo	Aircraft flown to Dhaka, Bangladesh	0	0	Hostages released
May 1986	Bombing	Jakarta	Canadian Embassy	0	0	Car bomb
May 1986	Bombing	Jakarta	US and Japanese Embassies	0	0	Rockets
June 1987	Bombing	Rome	US and UK Embassies	0	0	Car bomb and rockets
April 1988	Bombing	Naples	USO club	0	5	Home-made bomb 5 victims were US servicemen

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Table 3—Selected terrorist events by the Japanese Red Army outside of Japan (UK = United Kingdom; US = United States of America; USO = United Services Organizations)



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Figure 5—Scene of the Yosakoi-Soran Festival bombing in Sapporo in 2000

in Marunouchi, Tokyo. The impact of the blast shattered the glass in all of the front windows in the building, injuring numerous office workers inside (Figure 2). Eight persons died and 297 were injured. A young man was seen driving away from the scene just after the explosion.

Mitsubishi Heavy Industries is the largest manufacturer within Japan's defense industry. The main office building of Nittoku Metal Industries, another manufacturer of munitions in Japan, also was a target of an attack by a terrorist group in 1966. The Metropolitan Police Department established a special headquarters at Marunouchi Police Station to investigate the bombing. The explosive device was determined to be a high-quality, chloric acid bomb with a timer. The terrorists responsible never were identified.

Hokkaido Prefectural Government Office Building Bombing

On the morning of 02 March 1976, an explosion occurred inside the lobby of the Hokkaido Prefectural Government Office building. The impact of the explosion shattered most of the glass in the doors and windows and destroyed the lobby ceiling, causing iron beams to fall onto the floor (Figure 3). Eighty people in the building were injured by the blast. Two of these victims died later in the hospital. One of these deaths was of a 50-year-old man who arrived at the Emergency Department of Sapporo Medical University in cardiopulmonary arrest. Cardiopulmonary resuscitation was attempted, but he exsanguinated from a crushed pelvis. Figure 3 illustrates the Nakamura Memorial Hospital response to the blast.

Although other explosions had occurred in Hokkaido (e.g., the Hokkaido Prefecture Police Headquarters next door to this bombing, was bombed on 19 July 1975); this was the first bombing in Hokkaido to cause human injury. The Hokkaido Prefecture police established a special investigation team, which concluded that the explosion was caused by a time bomb, since the explosion occurred exactly at 09:00 hours, white smoke was emitted after the explosion, and no other cause was identified (i.e., gas leak). Later on the day of the explosion, a man telephoned the Hokkaido News office to report that a statement claiming responsibility for the crime was located in a locker in the Odori subway station. The police discovered that the statement was written by someone claiming to be a member of the East-Asia Anti-Japanese Armament Battle Line. Investigators noted that the bombing occurred on 02 March 1976, the same date that a law that promoted racial discrimination against the Ainu population in Hokkaido was passed in 1899. The alleged perpetrator currently is on trial.

Chemical Releases by Aum Shinrikyo

In 1993, the Japanese Oumu religious cult, known to the rest of the world as Aum Shinrikyo, launched a program to produce chemical weapons of mass destruction at a reported cost of US\$30 million.¹⁶ After experimenting with VX, tabun, soman, mustard, hydrogen cyanide, and phosgene, the group focused its efforts on the production of sarin, culminating in two notorious attacks.¹⁶

The first sarin attack occurred on the night of 27 June 1994 in the Kaichi Heights section of Matsumoto in Nagano Prefecture, when cult members released sarin from a delivery truck via a home-made dispersal system, consisting of a heater, fan, and drip system.^{16,17} The intended victims were three judges sleeping in a dormitory, but a shift in the direction of the prevailing wind blew most of the vapor into nearby dwellings, affecting an estimated 600 persons.¹⁷⁻¹⁹ As a result, seven persons were killed and 58 were hospitalized.¹⁸⁻²⁰ In addition, 18 of 52 (35%) rescue workers were injured due to the use of inadequate personal protective equipment (PPE).¹⁹

The second and most infamous sarin attack took place during the morning rush hour on 20 March 1995, when cult members released sarin vapor in cars of five subway lines of the Tokyo subway system.¹⁷ Five terrorists delivered the sarin as a 30% solution in plastic bags, which they brought onto the trains concealed in lunch bags and soft drink containers.^{16,21} They dispersed the sarin by piercing the bags with the tips of umbrellas, allowing the sarin to evaporate, permeating 15 subway stations with sarin vapor.¹⁷ Ultimately, 5,500 persons were injured (80% of whom had psychological injuries related to anxiety, hysteria, and fear), more than 500 were hospitalized, and 12 persons died.^{15,22} In addition, 135 of 1,364 (10%) emergency medical technicians dispatched to the scene also were injured by sarin.²¹

St. Luke's International Hospital, which was close to one of the stations, received 640 victims.²³ Of the five victims arriving at St. Luke's in critical condition, three recovered and two died. One of the survivors arrived at the emergency department in cardiopulmonary arrest. Most of those injured in the attack recovered within a few days, and were discharged, although some have yet to recover fully.²⁴ Later, numerous members of the cult were arrested as responsible parties the attack, and the leader of the cult, Shokou Asahara, currently is on trial.²⁵

The cult also attacked several individuals using VX.²⁶ On 12 December 1994, an opponent of Aum Shinrikyo collapsed in the street near a subway station in Osaka after a cult member sprayed VX on his skin with a syringe. He arrived at a local emergency care center in cardiopulmonary arrest, was resuscitated, but died 16 days later.²⁶⁻²⁹ On 04 January 1995, another opponent of the cult was sprayed with VX while in front of his home in Tokyo, but survived after a prolonged hospital course.^{26,27}

Arsenic Incident in Wakayama

During the evening of 25 July 1998, 67 people ingested rice and curry that had been intentionally laced with arsenic at a community festival in Wakayama. The victims were taken to 13 hospitals; four hospitalized died.^{7,30}

Most victims presented with headache, nausea, vomiting, and abdominal pain, causing physicians to initiate treatment for organophosphate toxicity. Hours later, the police reported that cyanide had been identified in the emesis from at least one of the victims, prompting physicians to treat approximately half of the victims with thiosulfate. A week later, investigators identified arsenic as the lethal agent.³⁰ A local housewife was later convicted, although her motive for the attack remains unclear. Because this incident had an enormous psychological effect not only on the community, but also on Japan, it is included here as related to terrorism.^{31, 32}

Yosakoi-Soran Festival Bombing

On the evening of 10 June 2000, a nail bomb exploded in a trash receptacle in Odori Park in Sapporo during the 9th Yosakoi-Soran Festival (Figure 5). The explosion injured 10 persons in the immediate area of the explosion. The most seriously injured victim was an 18-year-old male festival volunteer who was collecting the contents of the receptacle when the bomb was detonated. This patient was brought to the Emergency Department at Sapporo Medical University in shock. Shortly thereafter, he progressed to cardiopulmonary arrest. A thoracotomy was performed in the emergency department, followed by cardiac repair, pulmonary repair, and removal of a nail from his left lung in the operating room. Prompt diagnosis and aggressive surgical intervention resulted in his full recovery.

The Yosakoi-Soran Festival, which is held in Sapporo every June, has become a larger event than the Sapporo Snow Festival, attracting more than 40,000 participants and two million onlookers to the festival each year. Prior to the festival opening, the organizers received an anonymous e-mail warning that a bomb would be planted at the festival site if the festival was not canceled. A police investigation later determined that the bomb was a crude device consisting of a paper bag packed with gunpowder and nails. An arrest of the perpetrator still has not been made.

Future Risk of Terrorism

Despite the historic burden of terrorism on Japan, the risk of terrorism in Japan today probably is lower than in many Western countries, owing to several factors. First, Japan has few, if any, international enemies. Since World War II, Japan has not fielded a military force capable of offensive operations, and has experienced few international conflicts (other than relatively minor disputes over nearby islands). Second, even if Japan had external enemies, significant barriers exist to their penetration of the country. These obstacles include Japan's geographic isolation, well-monitored and protected borders, and cultural homogeneity (making secret internal operations by non-Japanese a major challenge). Third, Japan enjoys relative political stability, with no major separatist or revolutionary group seeking political or social change. Fourth, recent decapitations of Aum Shinrikyo and the Japanese Red Army through arrests of their leadership have removed major sources of domestic risk.^{11,26,33-36} Recently, Okumura surveyed 52 core disaster medical centers and 13 major fire defense facilities nationwide

regarding their perceptions of the risk of various types of chemical disasters in Japan (85% response rate). Of respondents in core disaster medical centers, 21% reported that there was a "high risk" of a chemical event due to a highway traffic accident, 18% reported a high risk of an accidental chemical release at a chemical plant, while only 17% replied that there was a high risk of chemical terrorism.³⁷ Since Aum Shinrikyo is the only terrorist organization in the world in the past decade to have successfully launched a large-scale chemical attack, it is not surprising that the future risk of chemical terrorism is perceived to be less than other types of chemical releases.

Finally in 2001, the Japanese Government took several key counter-terrorism measures, including freezing the assets of suspected terrorists and establishing a security watch list of nearly 300 groups and individuals.³⁸ By 2002, the Japanese Government had signed and ratified all 12 terrorism-related international conventions and protocols.²⁵

Nevertheless, some risk of terrorism in Japan persists. First, Japan has a track record of periodic terrorist events by small bands of domestic terrorists, many of whom never have been apprehended. Second, Japan maintains close political ties with the US, making attacks against US facilities in Japan a continuing threat. Third, some international terrorist events may affect Japan regardless of the intended target. For example, air travel can bring the consequences of the intentional release of a contagious biological agent in another country to Japan's doorstep in a matter of hours to days (i.e., smallpox, pneumonic plague, or even SARS).

In addition, some risk exists for Japanese citizens working or traveling abroad, who may be attacked by terrorists in other countries. For example, on 17 December 1996 in Lima, Peru, members of the Tupac Amaru terrorist organization invaded the Japanese Embassy, taking 600 persons hostage. When Peruvian soldiers stormed the compound to end the incident on 22 April 1997, one Japanese hostage was killed.⁶ As another example, two Japanese citizens perished in the 2001 World Trade Center attacks.³⁹ Furthermore, Japanese citizens participating in international peace-keeping or humanitarian missions in other countries also may be targeted by terrorists attempting to flaunt these efforts. For example, a Japanese engineer working for the United Nations was killed by terrorists near Peshawar on 14 June 1992.⁹

Emergency Management of Terrorist Events

The 1995 Tokyo subway sarin attack was a watershed event for emergency management in Japan. Prior to the attack, emergency management in Japan was focused primarily on planning and preparedness for the frequent natural events that affect the Japanese archipelago. For example, the Disasters Countermeasures Basic Act (No. 223, 15 November 1961) defined disaster as:

A storm, heavy rain, heavy snow, flood, high tide, earthquake, tsunami, or other unusual natural event, or a conflagration or explosion, or any other damage of similar extent from a cause to be prescribed by ordinance.⁴⁰

Emergency management in Japan also was based primarily on local systems of response. This approach was

codified legally in the Act, which assigned the major share of responsibility for disaster planning, preparedness, and response to the local governments of cities, towns, and villages responsible for regional disaster planning, preparedness and response.⁴⁰

The 1995 Tokyo subway sarin attack alerted the government to many of the problems with the existing system of emergency management in Japan, including the propensity of various emergency response organizations to function independently, their inability to network and share information, and the lack of central coordination.^{15,16,21,41} It also awoke the government to the need for emergency planning and preparedness for terrorist events involving weapons of mass destruction. As a result, in 1996, the Japanese Ministry of Health, Labor, and Welfare reorganized the national emergency management structure, and already has designated 492 "local disaster medical centers" spread throughout Japan's 47 prefectures.^{42,43} In particular, these local disaster medical centers were assigned the responsibility of providing self-sufficient disaster medical assistance teams (DMATs) for out-of-hospital emergency response and in-hospital capacity and preparedness for disaster victims (including adequate numbers and types of personnel, equipment, and supplies).⁴³

The Tokyo subway sarin attack also spurred the establishment of many new education and training programs for the management of chemical emergencies in Japan. Following the attack, the Japanese Poison Information Center organized a series of seminars on chemical terrorism, including medical management courses for emergency physicians and a laboratory analysis course for laboratory technicians. The Japanese Society for Clinical Toxicology also sponsored courses on laboratory analysis for laboratory technicians, which include training in decontamination methods. The Japanese Association for Acute Medicine also has offered seminars on the emergency management for nuclear, biological, and chemical terrorism-related events. In March 2001, the Japanese Poison Information Center held three-day seminars in Tokyo and Osaka on nuclear, biological, and chemical terrorism, which included simulation exercises. In 2001, the Japanese Association of Disaster Medicine, the Japanese Ground Self-Defense Forces, and the Fire Department conducted Japan's first joint chemical emergency exercise in Kurume City in a scenario that involved the release of a nerve agent.

Japan also has improved its national system for the evacuation and transport of victims in emergencies. Following the eruption of Mt. Usu in Hokkaido on 31 March 2000, the first author of this paper worked closely with the Ministry of Health, Labor, and Welfare to establish a national aeromedical transport system using fixed-wing and rotary-wing aircraft.^{44,45} In July 2000, this system was pre-deployed for the three-day G8 Summit Conference in Okinawa.

The events of 11 September 2001 prompted the Japanese Ministry of Health, Labor, and Welfare to establish an Emergency Anti-Terrorism Headquarters on 08 October 2001.⁴⁶ One of the principle functions of this agency has been to spearhead national biopreparedness efforts, including the: (1) provision of education and

training for the medical management of diseases caused by biological warfare agents; (2) establishment of a national, disease-based surveillance system for unusual infectious diseases (with mandatory physician and laboratory reporting); (3) funding for the installation of decontamination facilities and distribution of personal protective equipment to local disaster medical centers; (4) production and storage of smallpox vaccine (2.5 million doses were available in March 2002); and (5) assurance of adequate inventories and distribution of those antimicrobials required in the event of a bioterrorist event.⁴⁶

Future Challenges

Although substantial progress has been made in planning and preparedness for terrorism-related events in Japan, substantial work remains in bringing together the multiple components of emergency response in Japan into a cohesive whole. One major challenge is to improve emergency preparedness for terrorism-related events at the hospital level. Aiba *et al* reported that in a survey sponsored by the Japanese Association of Disaster Medicine in 1999, only 37% of 49 local disaster medical centers had hospital emergency plans.⁴⁷ In another study in 2001, Watoh *et al* found that only 101 out of 306 (33%) responding local disaster medical centers had established the DMATs as directed by the Ministry of Health, Labor and Welfare. Factors contributing to the inability of centers to form their assigned DMATs included a lack of personnel and a lack of clear guidelines from the Ministry.⁴³

Related hospital preparedness issues include the establishment of hospital emergency incident command systems (coordination and control), specific preparedness for nuclear, radiological, biological, and chemical emergencies (including the training of hospital personnel in decontamination and PPE use), regular performance of disaster drills, and systems for activating the DMATs.

Perhaps the most critical challenge for Japan lies in providing coordination and control of the multiple national emergency response organizations required for the management of large terrorism-related events. In the absence of

a national system of unified command in Japan, such as the Federal Emergency Management Agency in the US, individual ministries and agencies are left on their own to coordinate their activities. A closely related challenge is the coordination and control of various local systems of emergency response (e.g., hospitals, fire service, police service, local disaster prevention councils), not only with each other, but also with prefectural systems (e.g., prefectural disaster prevention councils) and national systems (e.g., various ministries, Ground Self-Defense Forces, National Disaster Prevention Council, and the Japanese Red Cross). This will require not only improved communication among these response assets during events, but also improved collaboration in emergency planning and preparedness before events, including the performance of joint exercises.

Lastly, the public must be recruited as a necessary participant in preparedness against terrorism-related emergencies, through community risk communication, and education about available resources and responsible behavior during emergencies.

Summary

Japan has experienced numerous small terrorist attacks during past decades, punctuated by several large incidents, including the infamous 1995 Tokyo subway sarin attack. Although the risk of terrorism in Japan is relatively low in comparison to many Western countries, owing to its lack of international enemies, geographic isolation, and internal political stability, the risk of terrorism in Japan persists.

Japan has made substantial progress in emergency management since 1995. Many of these innovations have improved the country's ability to respond to acts of terrorism, including the designation of local disaster medical centers, the establishment of education and training programs for chemical and biological terrorism, and funding for decontamination facilities and personal protective equipment at the local level. Emergency management in Japan is adapting to the global reality that no nation is an island in the seemingly endless ocean of terrorism.

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