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Health response to the earthquakes in Van Province, Turkey, 2011

2012

Sağlık Bakanlığı

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Abstract

In cooperation with the Ministry of Health of Turkey and the WHO Country Office, Turkey, the WHO Regional Office for Europe gathered a team of four national and three international experts in disaster management to investigate and prepare a report on the health response to the earthquakes experienced in Van Province, Turkey, on 23 October and 9 November 2011. Site visits to the cities of Erciş and Van and interviews with representatives of key stakeholder institutions were conducted on 13-16 February 2012.

This report was prepared using the template for reporting on health crises and critical events, which was developed within the project, "Support to health security, preparedness planning and crises management in EU, EU accession and neighbouring (ENP) countries", launched by WHO in 2008 with the support of the European Commission Directorate-General for Health and Consumers.

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Cover photo: Adem Altan, Turkey

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Forewords

In 2010, the Ministry of Health, in collaboration with a team of WHO experts, assessed the crisis preparedness of the Turkish health system. The resulting report concluded that “Turkey has a high level of political commitment to crisis preparedness and has developed substantial capacity to respond to national and international disasters”. These findings were put to the test during the Erciş and Van earthquakes in 2011, when the successful implementation of emergency-response operations confirmed the findings of the 2010 assessment.

The harsh winter conditions in the area not only made it very difficult to provide health services but also caused the additional burden of disease. People were reluctant to return even to undamaged homes as the aftershocks of the earthquakes were too frequent and their magnitude too high. Psychological factors also hindered the delivery of health care inside health facilities. However, none of these challenges stood in the way of the emergency response, including medical evacuation and the provision of other health services, which was commended throughout the country and by the media.

We learn from every disaster. Together with a team of WHO experts, we carried out an assessment of the health services provided during the Erciş and Van earthquakes in the firm belief that the findings will contribute to further strengthening our emergency-response capacities.

I should like to extend my thanks to the National Medical Rescue Teams (UMKE), the 112 teams and all of the health workers involved for their hard work and sacrifice during the response to the earthquakes in Van Province.

Professor Recep Akdağ
Minister of Health of Turkey

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Owing to its geographical location, Turkey is faced with the potential of various disasters, including earthquakes. Since the Marmara earthquake in 1999, significant steps have been taken to create the capacity necessary for managing emergencies and disasters. Within the scope of the Health Transformation Programme implemented by the Ministry of Health, considerable progress towards this goal has been achieved in the field of health services.

There are currently more than 4000 national medical rescue teams (UMKE), which not only respond to disasters that occur within the country but also play an important role in the event of cross-border emergencies.

The Turkish emergency (112) teams have developed considerable capacity for emergency response and medical evacuation by means of land, air and sea ambulance services. This progress was confirmed in connection with the earthquakes in Van Province.

This report acknowledges the progress achieved in Turkey in health emergency response. Its considerations are important in providing a basis for future work in this area, as well as guidance on how to proceed.

I should like to express my appreciation to UMKE, the emergency (112) teams and all health personnel who took part in the response to the earthquakes for their hard and incessant work. My thanks also go to all those who contributed to this report.

Professor Nihat Tosun
Undersecretary
Ministry of Health of Turkey

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When Van Province was affected by two earthquakes in October and November 2011 I immediately wrote to Professor Dr Recep Akdağ, the Minister of Health, to offer the technical support of the WHO Regional Office for Europe. The health response of Turkish authorities, which was mobilized and coordinated by the Ministry of Health, contributed effectively to minimizing acute morbidity and mortality and to preventing further public health consequences.

In response to an invitation from the Ministry of Health of Turkey, a team of WHO experts visited the affected area to assess and document the strengths and weaknesses of the health response to the earthquakes. The WHO team and the Turkish experts involved in the response operations worked jointly to prepare this report on their findings, which was based on the standardized methodology for sharing results and experiences outlined in the document *Guidelines for reports on health crises and critical health events*.

The occurrence of emergencies and disasters with a severe impact on human health are increasing in both frequency and severity. Turkey has been hit hard by several natural disasters and, on the basis of lessons learnt, has put significant effort and investment into reducing and mitigating the associated health risks and strengthening the preparedness of the country's health system for managing crises.

As documented already in the WHO report on the assessment of the Turkish health system for crisis preparedness carried out in 2010, the Ministry of Health in Turkey has taken a leading role in preparedness planning, working in close collaboration with other sectors of government. Turkey's strong political commitment to strengthening the emergency preparedness of its health system is certainly of crucial importance to this continuous process, which is based on the all-hazards approach.

I am pleased to see that this report documents the commendable health response coordinated by the Turkish health authorities. It illustrates the challenges met following the Van earthquakes and the critical success factors for an effective disaster response. It is meant to contribute to broadening the evidence base on disaster management and to serve as a reference for emergency managers and policy-makers.

Zsuzsanna Jakab
Regional Director
WHO Regional Office for Europe

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Acknowledgements

The WHO Regional Office for Europe would like to thank Professor Recep Akdağ, Minister of Health, Professor Nihat Tosun, Undersecretary of the Ministry of Health, and Professor Ali Coşkun, Director General, General Directorate of Emergency Health Services, Ministry of Health of Turkey, for their high level of commitment to and support of the mission to Van Province to assess and document the health response to the earthquakes that hit the area in October and November 2011.

The WHO team wishes to thank Professor Ali Coşkun and the team of key experts on crisis management in particular for their participation in the mission, and for organizing visits to relevant sites and providing invaluable information.

Furthermore, the WHO team wishes to express its sincere appreciation to the representatives of the Van Health Administration and the health facilities of the Province for their useful input to this report, as well as to all the Turkish colleagues nominated by the Government to participate in the mission who contributed to the successful implementation of the mission.

Special thanks are extended to Dr Maria Cristina Profili, WHO Representative in Turkey, for sharing her valuable expertise during the mission and to all staff of the WHO Country Office in Turkey for their assistance throughout its preparation and implementation.

Gerald Rockenschaub
Programme Manager
Country Emergency
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Corinna Reinicke
WHO Senior Consultant
Public Health and Disaster
Preparedness and Response

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Executive summary

In cooperation with the Ministry of Health of Turkey and the WHO Country Office in Turkey, the WHO Regional Office for Europe gathered a team of four national and three international experts in disaster management to investigate and prepare a report on the health response to the two earthquakes experienced in Van Province, Turkey, on 23 October and 9 November 2001. Site visits to the cities of Erciş and Van and interviews with representatives of key stakeholder institutions were conducted on 13-16 February 2012.

In spite of the magnitude of the earthquakes, the number of casualties and the economic consequences were relatively low by global standards. However, damage to buildings and the infrastructure was substantial and influenced the severity of the disaster.

The medical response was quickly and effectively coordinated by the Ministry of Health of Turkey. Within 24 hours of the first earthquake (known as the Van earthquake), rescue teams (UMKE) comprising 699 professionals were dispatched, making it possible to recover over 200 living victims from the rubble.

Damaged and collapsed medical facilities were evacuated and tent hospitals erected. The Ministry successfully coordinated the medical response with the support of management staff from Van Province and other provinces. Already during the first hours and day, medical support teams representing a broad range of specialties (public health, environmental health, psychosocial health and all clinical disciplines) arrived in Van from all over Turkey, as well as teams of engineers and medical supplies and equipment. Primary health care (PHC) services for, among others, the chronically ill, home patients, dialysis, routine and targeted vaccination and blood transfusion, as well as a medical hotline, were all in place within the first days. Evacuation was arranged in special cases. No changes in disease pattern or outbreak of food- or waterborne disease were reported.

The main concern was the timely provision of appropriate temporary housing for the many homeless. Tent cities and container cities were established, in connection with which PHC facilities were provided (depending on the size and location of these cities). As the initial relief operations phased out, the emphasis shifted to recovery efforts, which included strengthening the psychosocial health-support system, with the assistance of WHO.

All of the interviewees considered the commitment and dedication of the medical staff in Van as being the most crucial contributor to the success of the rescue and relief operations of the Ministry of Health. The simulation exercises conducted by UMKE just prior to the Van earthquake, the existence of hospital disaster plans and the improvements achieved in the management and coordination structure at both national and provincial levels are other factors that may have contributed to the success of the response.

A solid multisectoral, multidisciplinary evaluation of the processes and mechanisms used during these events is crucial to the development of national and international emergency-preparedness plans and the success of future disaster responses.

The practical applicability of the *Guidelines for reports on health crises and critical health events (1),* a template for reporting on response to health crises and critical health events, developed within the EU-supported WHO project, “Support to health security, preparedness planning and crises management in EU, EU accession and neighbouring (ENP) countries”, was tested in preparing this report.

Introduction

On 23 October and 9 November 2011, two major earthquakes hit eastern Turkey measuring, respectively, 7.2 and 5.6 on the Richter Scale. Van Province was severely affected with a substantial destruction of buildings and infrastructure. By 9 February, over 6284 aftershocks had been reported, over 121 of them measuring over 4 and 5 on the Richter Scale *(2).*

The epicentre of the first earthquake (known as the Van earthquake) was in the village of Tabanlı and the hardest-hit area was the city of Erciş. The city of Van, which is situated about 100 kilometres south of Erciş, was substantially damaged. This was the strongest earthquake to have affected Turkey in the past decade. It inflicted significant damage to critical infrastructure, including basic utilities and supply lines (power, water and sanitation), transport and communication networks, and hospitals and health facilities;

28 532 buildings were damaged or completely destroyed and an estimated 650 000 people were affected. The Prime Ministry, Disaster and Emergency Management Presidency Office (AFAD) recorded a significant number of casualties as a result of both earthquakes – 644 deaths and more than 4000 injuries. The highest death toll was reported from Erciş where there were 478 casualties. In the initial phase, immediate shelter was provided for the victims in the form of tents; later, they were moved to containers. On 28 March 2012, 174 974 people were living in containers in or near Van city and 35 976 people in state hosting facilities in other cities *(3)*. A state of emergency was not officially declared.

Methodology

A multidisciplinary team of three international and four national experts visited Van Province on 13–16 February 2012 with the aim of investigating and preparing a report on the health response to the earthquakes, which took place in the Province on 23 October and 9 November 2012 (Annex 1). In cooperation with counterparts from the Ministry of Health and the WHO Country Office in Turkey, site visits to Erciş and Van cities were organized, semi-structured and informal interviews were held with representatives of key stakeholder institutions (Annex 2) and key documents were reviewed.

In preparing this report, the team applied the principles of the Guidelines for reports on health crises and critical health events that promote “a standardized methodology for sharing results and experiences”. They encourage assessing the status in the area before the event, the event itself, subsequent damage and, finally, the relief and recovery responses to the event to identify lessons that can lead to improved action in future crises. Thus, based on these guidelines, this report is intended to serve as a useful resource in facilitating an “analysis of findings in order to improve preparedness planning and response and advance international collaboration and learning”. *(1)*

Transcripts were prepared immediately after the interviews and site visits and shared among the interviewers to allow for additions and corrections and ensure a common understanding of the findings. The WHO Country Office in Turkey was asked to clarify, where possible, any unclear information and to provide additional information where necessary.

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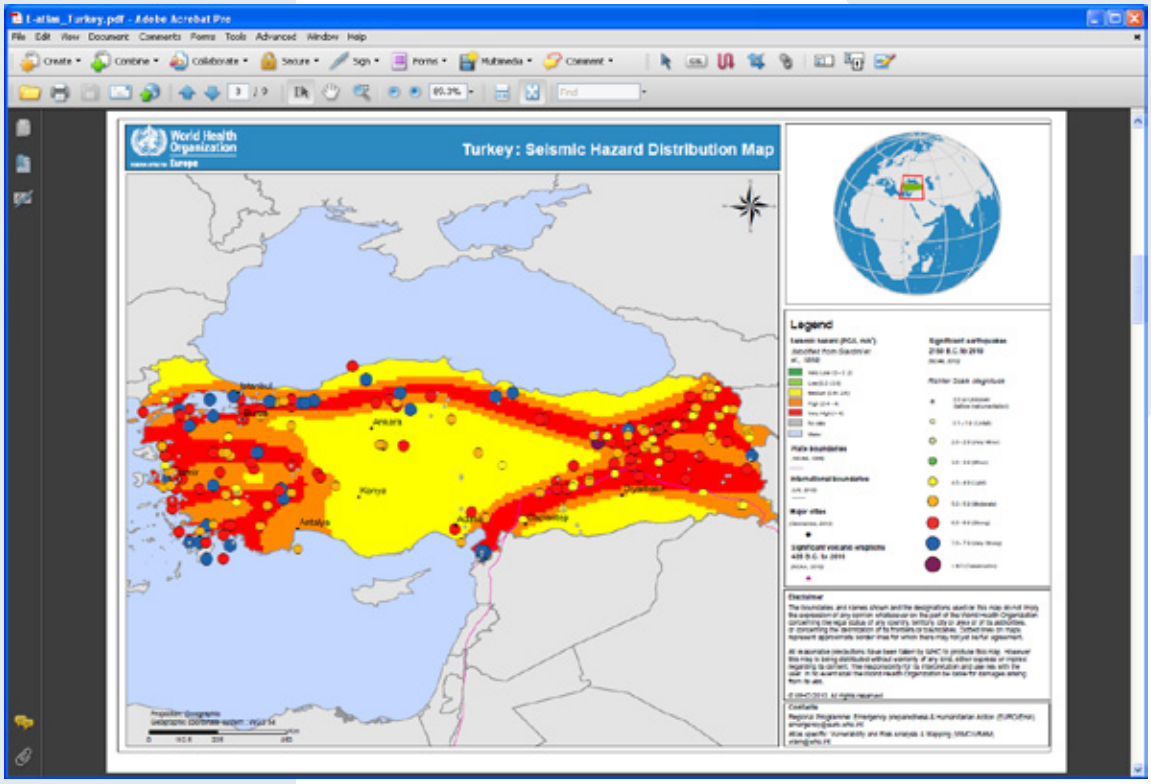
Pre-event status

Background

Turkey lies at the cross-roads between Europe, Asia and the Middle East, its land area, islands and lakes totalling 814 578 km^2. It borders with Armenia, Bulgaria, Georgia, Greece, the Islamic Republic of Iran, Iraq and the Syrian Arab Republic. Turkey is one of the most populous countries in the European Region, with approximately 80 million people. It is administratively divided into 81 provinces and 923 districts. *(4)*

Turkey is situated in one of the most seismically active regions in the world. Active fault zones are found in two thirds of the country where 70% of the population live. Istanbul, the largest metropolitan area in Turkey, with a population of over 10 million inhabitants, is situated on the North Anatolian Fault (Map 1). The average annual number of earthquakes of a magnitude equal to or greater than 5.5 on the Richter Scale (5.5M) is 0.76, rating Turkey sixth in the world in this regard *(5)*.

Map 1. Seismic hazard distribution map, Turkey



Note. Maps and dataset created in 2010 and representative of that year. PGA = Peak Ground Acceleration; NOAA - National Oceanic and Atmospheric Administration.

Data sources for this map are: Adapted from Giardini et al *(6);* Significant Earthquakes Database (SED) *(7);* Tectonic Plate Boundaries Database *(8);* United Nations International and Administrative Boundaries Resources *(9);* GeoNames Geographical Database (10); Significant Volcanic Eruptions Database *(11).*

Source: The WHO e-atlas of disaster risk for the European Region. Volume 1. Exposures to natural hazards – Version 2.0 *(12).*

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Van Province lies in eastern Turkey between Lake Van and the Iranian border. It spans 19 069 km^2 and, with 1 022 532 inhabitants, the population density is very low (54.3/km^2). The population of Van city is 353 419 *(13)*.

The Erciş district, located in Van Province, has a total population of 159 450, of which just over 50% is urban. Erciş city has 76 463 inhabitants.[1]

Preparedness

In Turkey, there is a high level of political commitment to crisis preparedness and the country has the proven capacity to respond to national and international disasters. Turkey has based its disaster and emergency-management system on lessons learnt, especially from the devastating earthquakes, which occurred in 1999; it has since dramatically improved its management and coordination structure. The emergency-response system has a strong legal framework; it is adequately staffed and well equipped. Regulations and detailed instructions at the national and regional levels define the coordination bodies, the designation of authority and the contingency requirements. Dedicated emergency and contingency funds are available at each administrative level. Resources for the response and surge capacity of the health facilities and the emergency medical services (EMS) system are available at all levels (national, provincial and local). Hospital capacity is substantial in terms of number of beds, availability of trained staff, and accessibility to equipment, contingency supplies and modern medical technology. The EMS system is well resourced with staff, ambulances (many with full resuscitation capacity), contingency supplies, dispatch centres, etc.

Preparedness activities, including community and staff training and exercises and drills carried out jointly by different institutions, are integrated in a continuous process of implementation. Every hospital is required to have a dedicated focal point for emergency preparedness, as well as an emergency-response plan. Health promotion activities at the community level include emergency response and awareness-raising. A strategy for risk communication and public information during emergency situations is in place. *(14)*

The Van Province health-disaster and emergency plan (İl Sağlık Afet ve Acil Durum Planı – ILSAP) was finalized in March 2011 in accordance with a new, standardized format. The Van Province UMKE conducted an exercise according to the plan while moving the Research and Training Hospital to its new building in September 2011 and the tents erected for the purpose of the exercise were still in place when the Van earthquake occurred. The Erciş State Hospital had tested its disaster-preparedness plan only a few weeks before. The construction of the new University Hospital, the Campus Research and Training Hospital and new housing was carried out in accordance with the national standards for construction in earthquake zones.

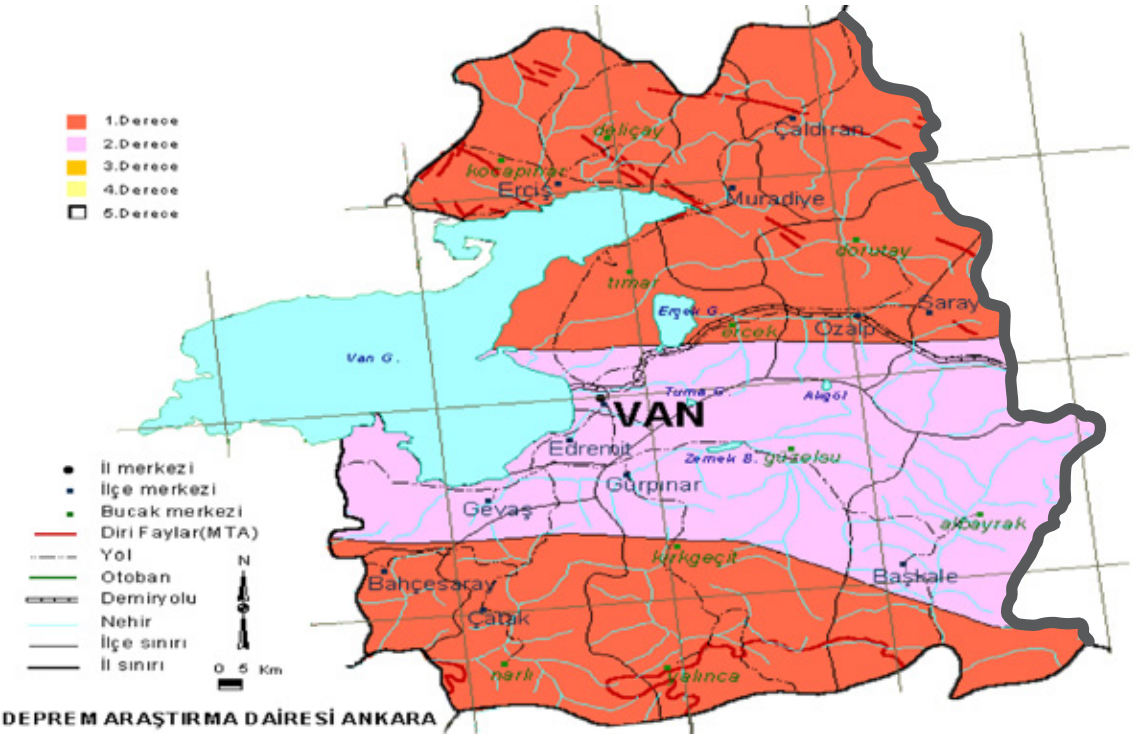
Hazards

Disasters in Turkey are mostly associated with natural hazards, such as earthquakes, forest fires, droughts, heavy rain and floods, landslides, rock falls, wind and snowstorms, avalanches, heat waves and fog. In the last century, over 100 major earthquakes of a magnitude greater than 6 (M6) on the Richter Scale have affected Turkey, resulting in nearly 90 000 deaths, 115 000 injured and more than 500 000 damaged buildings. The most affected regions are the four provinces – Kocaeli, Sakarya, Bolu and Yalova – situated along an arc extending from the Sea of Marmara to Lake Van.
The most common natural hazards in Van Province include earthquakes, floods and landslides (Map 2). In 1941, an earthquake measuring M5.9 affected Erciş and Van killing between 190

[1] Information presented by Van Health Administration during the assessment mission, 13-16 February 2012.

and 430 people. Damaging and casualty-bearing earthquakes also occurred in Van Province in 1945–1946 and 1972. In 1976, the Van-Muradiye earthquake struck the border region with a force of M7, killing around 3840 people and causing around 51 000 people to lose their homes. *(15)*

Map 2. Seismic risk in Van Province



Note. Derece =grade; il merkezi = city centre; bucak merkezi = township centre; diri faylar (MTA) = active faultline ; yol = road; otoban = highway; demiryolu = railway ; nehi = river; şehir = province; ilçe sınırı = district border; il sınırı = city border; Deprem Aarastırma Dairesi Ankara = Earthquake Research Department, Ankara.
Source: Van Health Administration, Turkey.[2]

Vulnerability

The cities of Erciş and Van are built on the shores of Lake Van. There are soft-soil conditions in the main parts of the cities and potential soil liquefaction along the shore of the Lake, causing greater ground motion, which can lead to ground failure and the collapse of buildings. Such soil conditions tend to aggravate the impact of earthquake-related ground motion, increasing the likelihood of damage to infrastructure and buildings.

The socioeconomic factors that influence the vulnerability of the population are household size (between 7 and 10 people on average) and the number of dependents, especially children (40% of the population is 14 years and younger). Also, Van Province is one of the poorest provinces in Turkey and the Human Development Index (HDI), which can be regarded as a measure of coping capacity, in the affected region (Van, Hakkari, Bitlis, Muş) is among the lowest in Turkey (0.63), the average HDI for the country being 0.81. As larger and poorer families may not be able to reside with distant extended family, which is part of the Turkish tradition in emergencies, a higher dependency on public emergency shelter assistance could result from this vulnerability.

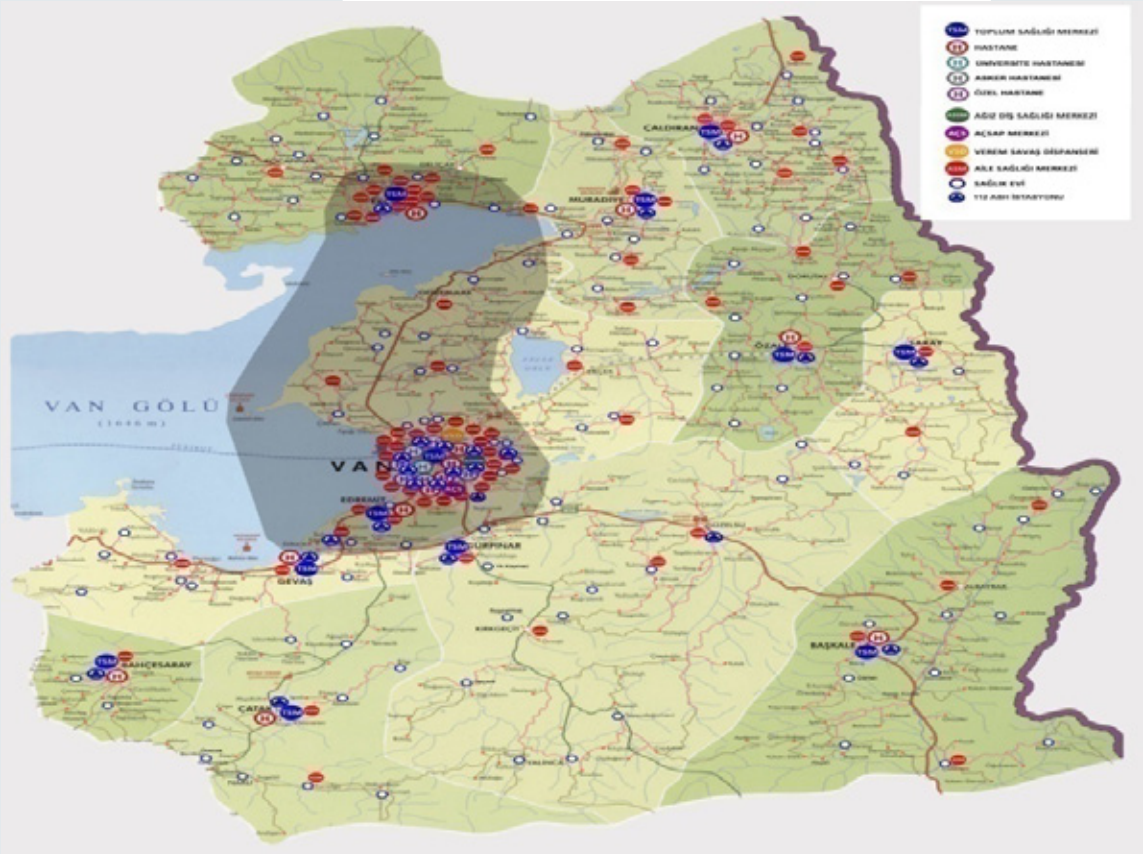
[2] Information presented by Van Health Administration during the assessment mission, 13-16 February 2012.

Health crises and critical health events

Earthquakes and aftershocks

The Van earthquake hit at 13:41 local time on Sunday, 23 October 2011. It measured M7.2–M7.3 and was located at a depth of around 5 km with the epicentre between Erciş and Van cities (Map 3). The duration of shaking was quite long (40 seconds), which is more devastating for old buildings; a shorter, more intense release also affects modern buildings. *(15)*

Map 3. Area affected by the Van earthquake, 23 October 2011 (13:41 hours)



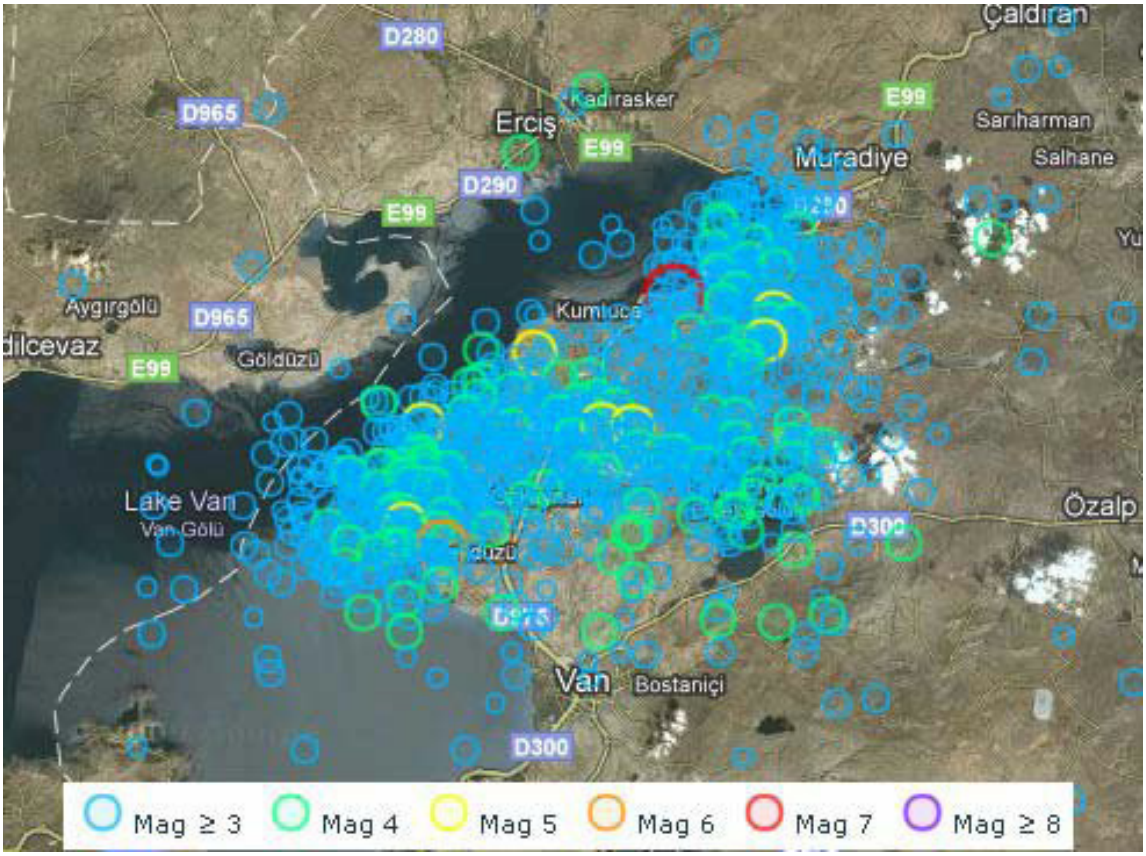
Note. Toplum sağlığı merkezi = community health centre; hastane = hospital; üniversite hastanesi = university hospital; asker hastanesi = military hospital; özel hastane = private hospital; ağız diş sağlığı merkez =: oral and dental health care centre; AÇSAP merkezi = mother and child health care and family planning centre; verem savaş dispanseri = tuberculosis dispensaries; aile sağlığı merkezi = family physicians (family health centre); sağlık evi = health post; 112 ASH istasyonu = 112 emergency (health services) stations.
Source: Van Health Administration, Turkey.[3]

By 8 November 2011, over 2243 aftershocks of more than M2 had been registered. Over seven of these were greater than M5, including one of M5.6 and one of M5.9 soon after the

[3] Information presented by Van Provincial Health Directorate during the assessment mission, 13-16 February 2012.

earthquake, one of M6 ten hours after, and one of M5.7, which caused a lot of additional damage, including the collapse of more houses *(16).* Map 4 illustrates the distribution of 1128 aftershocks as of 2 November 2011.

Map 4. Distribution of 1128 aftershocks of >M3 as of 2 November 2011



Note: Mag = magnitude.
Source: European-Mediterranean Seismological Centre *(15).*

On 9 November 2011, an earthquake of M5.7 hit at 16:23 hours local time, its epicentre located about 40 kms south of that of the Van earthquake of 23 October 2011. Aftershocks were felt over a large area, which meant that most of the population of Van Province was significantly affected. This earthquake was also felt in 11 neighbouring provinces: Ağrı, Batman, Iğdır, Muş, Bingöl, Tunceli, Dıyarbakır, Siirt, Şırnak, Mardin and Erzurum.

The weather conditions in the aftermath of the event were recorded as colder than average for the season. Temperatures were around 13–14°C during daytime until 26 October when a cold spell entered eastern Turkey with temperatures well below 10°C on 27 October, followed by slightly higher temperatures on 28-30 October *(17).* The average winter (December, January and February) temperatures between 1970 and 2011 were from -1 to -4; heavy snow was reported in the winter of 2011–2012 *(18).* Fig. 1 illustrates the climatic conditions at the time of the earthquakes.

Fig. 1. Van earthquake response: mobile hospitals under heavy snow at night

Source: Ministry of Health of Turkey.

Damage

The two earthquakes and the numerous aftershocks caused considerable damage to property in, and the infrastructure and economy of, Van Province. By global standards, the economic impact, the actual numbers of deaths and injuries, and the additional burden of disease were all relatively low considering the magnitude of the earthquakes and the ground motion involved. However, the number of buildings damaged was high and influenced the severity of the disaster.

The gross domestic product (GDP) of the Van Province is approximately US$ 3.3 billion. Compared with similar events, losses were anticipated at around 15–66% of the provincial GDP, i.e. US$ 500 million to US$ 2.2 billion. The total insurance loss was expected to be around US$ 40–100 million. *(5)*

Impact on human health

Deaths and injuries

According to the information provided by the Ministry of Health, 644 people lost their lives as a result of the earthquakes (mostly due to falling debris and the collapse of houses), 252 people were saved from the debris, and no one was reported missing. More than 4000 people were injured and 1674 patients with major trauma or severe diseases were evacuated to hospitals in other provinces by air lift and land transport. These numbers also include patients who were hospitalized at the time of the earthquakes and evacuated to increase hospital-bed capacity, and psychologically traumatized patients who were transferred for treatment outside the earthquake area.

Disease

In the immediate aftermath of the two earthquakes, no changes in the pattern or frequency of communicable diseases were reported. Measures, such as vaccination, water and sanitation

control and the distribution of bottled water, were taken already in the first few days after the earthquake to curb potential outbreaks and, in spite of the high number of people living in shelters (more than 250 000) *(19),* no outbreaks had been reported by February 2012.

Over 13 000 households in tent cities with an average of 10 people per household were screened for chronic or acute illness and about 5141 persons identified for psychosocial counselling and follow-up. Pharmaceutical requirements were usually drugs for chronic diseases, pain relief and antipyretics. Altogether, the Ministry of Health delivered 110 tons of medical drugs and equipment in the aftermath of the earthquakes.

Food and nutrition

Emergency food (food parcels, baby food) came in very quickly; during the first days, some problems were encountered in delivering it as soon as it was received. From the third day after the Van earthquake, it was reported that three meals a day were being served in the shelters and, by 28 October, the Turkish Red Crescent Society had provided 400 000 beneficiaries with three meals a day through stationary and mobile facilities. During their visits, Ministry of Health UMKE also distributed some (baby) food and hygiene articles to meet the most urgent needs.

Housing

According to the data of the AFAD Van Earthquake Coordination Office, 28 532 of the 111 709 buildings in Van Province collapsed or were heavily damaged, 11 317 were moderately damaged and 43 407 were damaged to a minor degree. The sequence of aftershocks resulted in a larger-than-usual number of people evacuating their homes, even if these were not severely damaged or destroyed. Aftershocks combined with the fear of collapsing buildings represent the main reason for people staying out of their homes until proper assessment has been made.

In the initial phase of the response, most of the displaced people were residing in tents; in the later phase, close to 25 000 people moved into containers to mitigate the effects of the winter conditions. At the time of the mission, 147 223 people were living in Van city centre in 24 014 containers; in Erciş, 27 751 people were living in 5472 containers.

Mobile-phone companies registered customer signals from outside Van Province and family physicians reported reductions of more than 10% of their patients owing to the temporary displacement of the latter.

Health facilities

Between 23 October and 23 December 2011, a team of 20 experts from the Ministry of Health assessed the structural safety of the health facilities. Those constructed after 2007, when the law on earthquake-safe construction was reformed, were assessed to be structurally safe with only minor damage. The old University Hospital was seriously damaged. The new University Hospital (which was in the final phase of construction when the earthquake struck) opened its outpatient departments in February 2012; its inpatient departments and operating theatres plan to resume work in the near future. In the meantime, the staff of the hospital performs operations in the Research and Training Hospital (constructed in 2007), which was damaged only to a minor degree and remained functional throughout the events. Nevertheless, staff and patients were reluctant to enter its buildings due to heavy aftershocks and the second earthquake on 9 November 2011. The hospital administration engaged Gazi University to conduct an in-depth assessment of the structural safety of the buildings and posted a (positive) report in the entrance hall to inform the public.

The hospital in Erciş was badly damaged by the Van earthquake. All its patients were evacuated, some to a tent hospital erected for the purpose and others out of the Province.

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Table 1 gives an overview of the numbers of health facilities affected by the earthquakes.

Table 1. Van Province health facilities affected by earthquakes of 23 October and 9 November 2011.

City (and villages)	Total numbers of health facilities (all categories)	Numbers of damaged health facilities			Proportion of Van Province health facilities affected (% of total)
		Destroyed or heavily damaged	Partially damaged	Total number damaged	
Van City	5 hospitals	2 hospitals	2 hospitals	4 hospitals	80%
	23 FHC	3 FHC	2 FHC	5 FHC	22%
Erciş City	1 hospital		1 hospital	1 hospital	100%
	12 FHC	3 FHC	2 FHC	2 FHC	42%

Note: FHC = family health centre.
Source: Ministry of Health of Turkey.

Infrastructure (water supply and sanitation, education, transport and communication)

In Van City, the natural-gas system was affected by the collapse of buildings on the regulators, water-supply was interrupted a result of pipeline damage, and there were general interruptions in the power and communication systems. However, all systems were reported to be restored and functional within 24 hours after the earthquake.

The Ministry of Education reported the collapse of many school buildings. Tents were erected as temporary replacements.

Damage to the Van–Erciş road in the form of road collapse and cracking was also reported but, fortunately, this did not hamper the response efforts. Within a few hours, the damage was repaired and the road was functional.

Table 2. Numbers of personnel and vehicles deployed to rescue operations from other provinces between 23 October 2011 and 19 February 2012

Personnel/vehicles	Total numbers deployed	Numbers remaining as of 19 February 2012
Overall personnel	5 902[a]	145
Vehicles of the national medical rescue team	70	0
Fully equipped ambulances	333	29
Mobile dental clinics	4	3
Specialist physicians	1 089	0
General practitioners	596	9
Other health workers	4 217	126

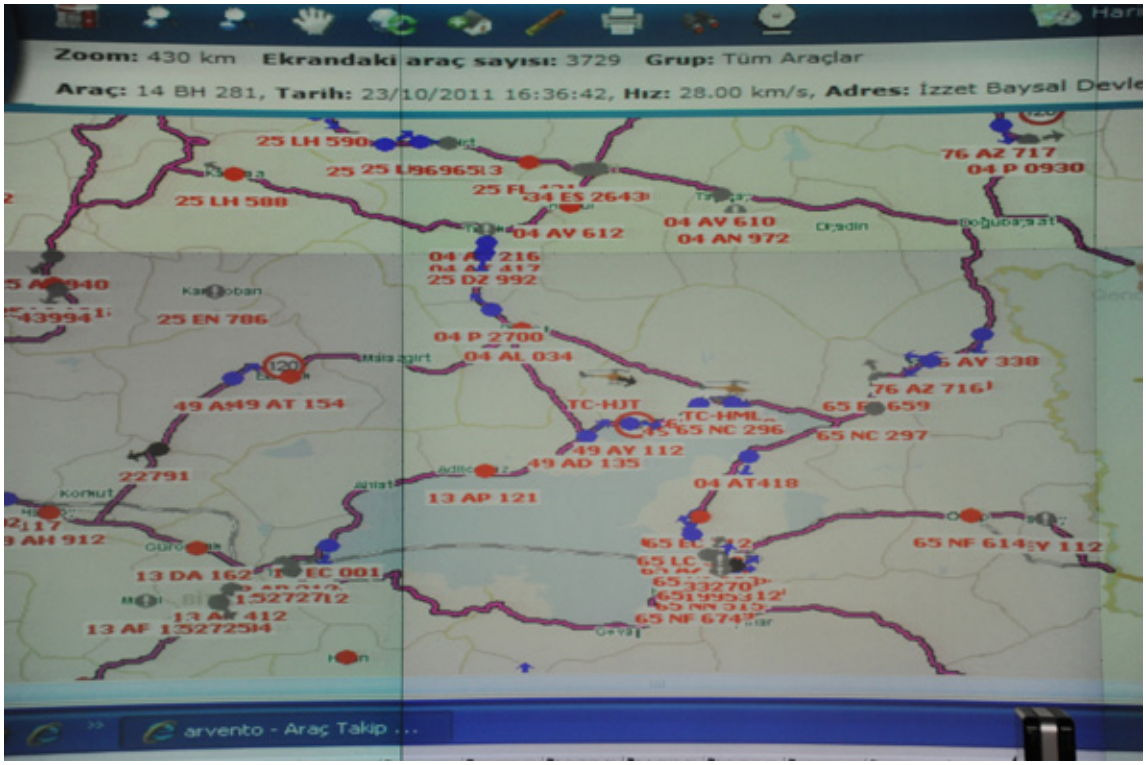
[a] *Including 1488 UMKE personnel.*
Source: Ministry of Health of Turkey.

Responses

Under the overall leadership of AFAD, the Health and Disaster Coordination Centre (SAKOM) of the Ministry of Health coordinated the medical response. Immediate rescue operations were initiated within minutes of receiving the report about the Van earthquake, and search-and-rescue, medical and first-aid personnel from Van Province, 48 other provinces and 39 different institutions were deployed to the earthquake site by air and land with the help of Turkish Airlines and military and special-cargo aeroplanes and vehicles (Table 2): 5267 search-and-rescue personnel were deployed and about 1000 teams arrived within hours of the onset of the disaster.

Fig. 2 depicts a computer screen at SAKOM showing the movement of air and land ambulances around Van just a couple of hours after the major earthquake hit.

Fig. 2. Movement of air and land ambulances around Van on 23 October 2011 at 16:36:42



Source: Ministry of Health of Turkey.

Immediate relief/rescue response and early recovery response

The medical emergency operation was set up very quickly and effectively by the Ministry of Health and SAKOM, which coordinated the medical response provided by UMKE, the emergency (112) ambulance teams, health and management staff of neighbouring provinces and institutions (such as the Turkish Red Crescent Society), and various associations, NGOs, and volunteer organizations. Within a few hours after the Van earthquake struck, three helicopter ambulances, two air ambulances, 145 land ambulances, 9 UMKE vehicles and more than 500 health personnel were deployed. Two mobile command and control centres, one for Erciş and the other for Van, were sent to the earthquake area.

Table 3. Goods and services deployed to the emergency areas as of 28 November 2011

Area	Items deployed
Search and rescue	5267 search-and-rescue personnel 34 search dogs
Shelter	72 597 tents (28 140 of which were through international donation) 480 communal tents (28 of which were through international donation 200 tarpaulins 260 prefabricated houses (200 of which were through international donation) 2711 containers (128 of which were through international donation) 3794 Mevlana houses 151 toilet/shower containers
Non-food items	335 019 blankets (94 470 of which were through international donation) 1940 duvets 1825 mattresses (1000 of which were through international donation) 3149 kitchen sets 25 315 heaters (684 of which were through international donation) 6192 sleeping bags 1536 folding beds (536 of which were through international donation)
Health	2976 medical personnel 11 mobile hospitals 183 ambulances 18 air ambulances Equipment: 1 mobile oven 732 pieces of construction machinery 79 projectors 146 generators (40 of which were through international donation)

Source: Emergency appeal operation update. Turkey: Van earthquake. Operation update no. 4. 9 January 2012. Geneva, International Federation of Red Cross and Red Crescent Societies, 2012 *(20).*

Contrary to the usual procedure whereby coordination of the relief and response activities is the remit of the local administration, the Ministry of Health relied on the Van Health Administration only for consultation purposes and invited experienced colleagues from other provinces to manage and coordinate the response. The Ministry was concerned that emotional distress resulting from direct involvement in the event could hamper decision-making processes. Nevertheless, in spite of the trauma related to the event, the medical personnel of the Van Health Administration were reported to have remained at their posts during the response, carrying out their duties and/or advising experts from the other provinces.

Medical rescue

In the first week of the disaster, medical rescue and the provision of food and shelter to the homeless were the most urgent needs, closely followed by setting up/recovering the PHC infrastructure and expanding post-traumatic and social care.

Over 100 UMKE were dispatched. The first four victims were rescued by 14:10 hours; 201 people were rescued in the first eight hours. Figures 3 and 4 illustrate, respectively, UMKE at work and a happy result of their action.

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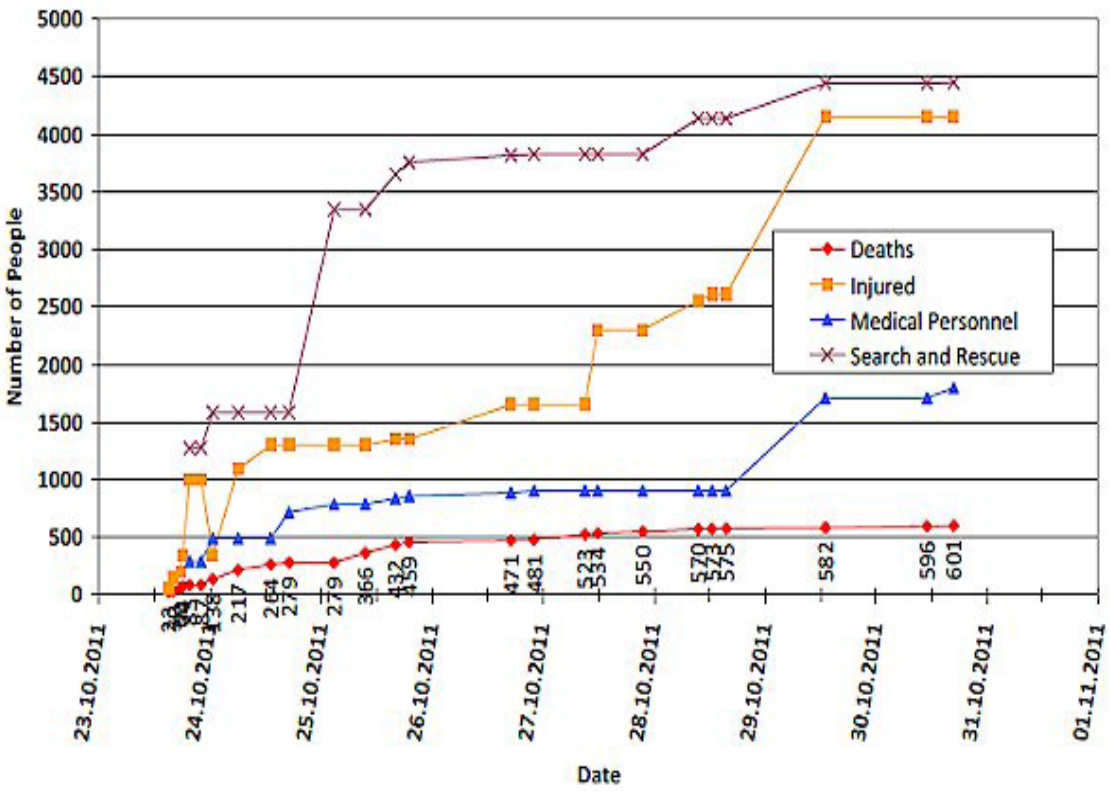
Fig. 3. UMKE searching for survivors under the debris

Source: Ministry of Health of Turkey.

Fig. 4. Baby Azra, 14 days old, safe in the arms of a member of UMKE after 46 hours under debris

Source: Adem Altan, Turkey.

Fig. 5. Numbers of deaths and injuries and numbers of medical and search-and-rescue personnel in the first eight days after the Van earthquake on 23 October 2011



Source: Comparing the current impact of the Van Earthquake to past earthquakes in Eastern Turkey. CEDIM Forensic Earthquake Analysis Group – Report #4. Status: Wednesday November 2nd, 2011, 18:00 Central European Time. Karlsruhe, Center for Disaster Management and Risk Reduction Technology, 2011 *(5)*.

Blood services

Blood donations were provided by hospitals in neighbouring provinces and prepositioned by the regional blood centres in Ankara and Erzurum.

Psychosocial support services

Psychosocial workers were active in the immediate aftermath of the Van earthquake and 30 field tents were set up for public services and psychosocial trauma support on the fourth day. In addition to the psychosocial support services of the Ministry of Health, the Turkish Red Crescent Society also assigned psychologists and social-service specialists to the disaster-affected regions to ensure the availability of free-of-charge, quality emergency counselling for all of the affected population and, especially, to provide psychosocial support for victims suffering from acute stress to prevent post-traumatic stress disorder. Psychosocial support was initially given in the field and later in the Community Mental Health Centre, which refers patients for hospital care if required. Trained community leaders, such as teachers and religious leaders, were integrated in the psychosocial support service as an active outreach mechanism. UMKE personnel also participated in psychosocial activities as shown in Fig. 6.

PHC services

The continuity of basic health services, including immunization and treatment of chronic diseases (e.g. diabetes and cardiovascular disease, was assured by 134 mobile health teams and mobile pharmaceutical teams, which provided PHC services and home care to patients

with chronic diseases living in remote districts and tent cities. Of the 244 dialysis patients in Van Province, 35 living in Erciş were transferred to Diyarbakır; the others were able to be treated in Van city. The Ministry of Health supported the private dialysis centre by providing personnel and supplies.

Fig. 6. UMKE playing with children during psychosocial activities

Source: Ministry of Health of Turkey.

The most vulnerable groups living in crowded conditions for extended periods were vaccinated against influenza and pneumococcal disease and the family health centres restored routine immunization services. During the second week after the Van earthquake, family health centres resumed their services either in undamaged buildings or in containers distributed for the purpose. The massive displacement of the population was felt by PHC service providers who noted a reduction in their workload. Therefore, the Ministry of Health immediately launched a "guest system" making it easier for patients from Van Province to access PHC services in other provinces. At the same time, the per capita payment system was put on hold for several months to allow family physicians in Van a stable income in spite of their having a reduced number of patients. Patient data, including vaccination status, were shared with the receiving family physicians.

Public health surveillance

The early-warning alert-and-response system for public health surveillance was activated; surveillance personnel from the Ministry of Health, the Turkish Public Health Association and other provinces formed teams to strengthen the disease-surveillance system of Van Province. By 25 October 2011, 12 communicable diseases (pneumonia, measles, rubella, mumps, diarrhea, etc.) were being surveyed at 13 sentinel points.

Reporting procedures were simplified and daily reporting of routine and certain additional diseases related to the disaster commenced on 24 October 2011.

Between October and December 2011, over 50% of all outpatients in Van and Erciş cities were diagnosed with communicable diseases, 60% of which were acute respiratory infections (ARI) (Table 3). This was reported as falling within the seasonal disease pattern[4]. Diagnostic laboratory facilities were supported by staff, equipment and consumables, and urgent samples were sent to the laboratory of the Refik Saydam Institute of Public Health in Ankara.

Table 3. Communicable diseases reported in Van Province between 24 October and 28 December 2011

Diseases	Numbers of cases	Cases in under-5 year-olds
Diarrhoea	1 556	784
Bloody diarrhoea	29	6
Hepatitis A	69	26
Acute respiratory infections	17 888	4 680
Influenza or influenza-like illness	5 253	1 540
Pneumonia	232	79
Chicken pox	134	69
Rubella	2	1
Diseases associated with animal bites	16	0
Total	**25 179**	**7 185**

Source: Ministry of Health of Turkey

In Turkey, 99% of the population has access to improved water supply and 90% to improved sanitation facilities, dropping to 75% in rural areas *(21).* The provision of sufficient and safe water, adequate sanitation and hygiene facilities was started immediately on the first day when drinking water was distributed to the public in polyethylene terephthalate (PET) bottles. The environmental-health teams checked the microbiological and chlorination status of the drinking-water resources on a daily basis and treated them appropriately. As a result, the quality of water after the earthquakes was better than before.

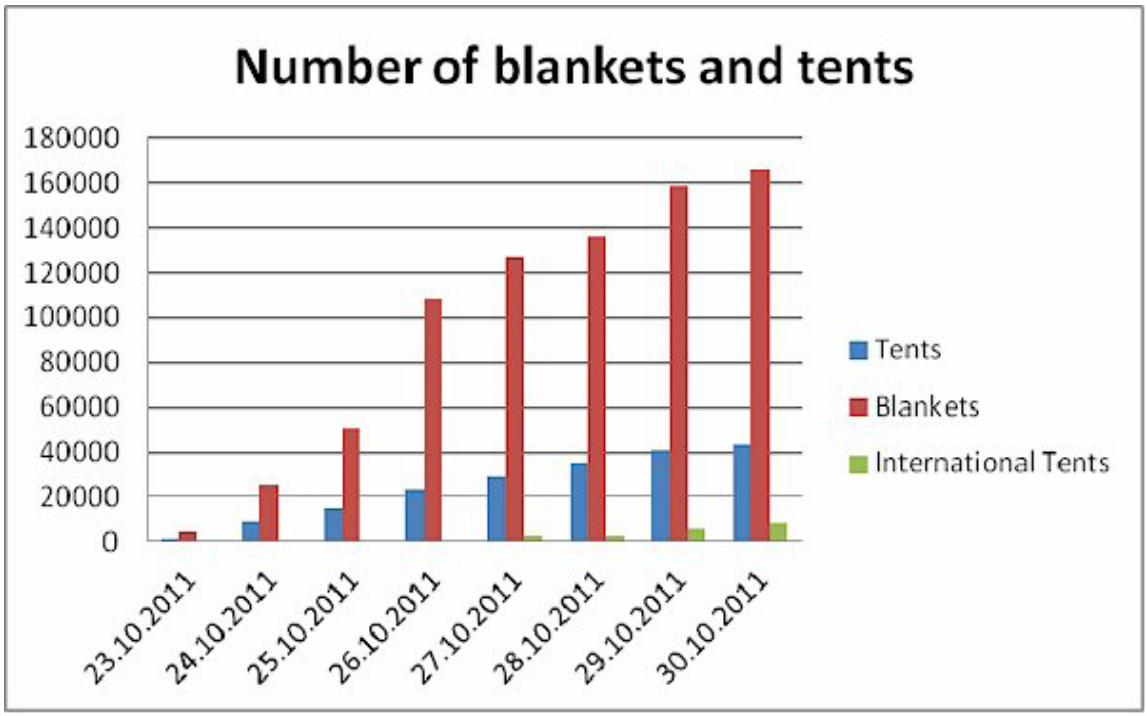
The appropriate management of waste recommenced after a short disruption of two days. Solid waste collected in garbage bags provided to tent cities and temporary settlements were amassed in garbage containers at temporary storage areas and treated regularly with insecticides and pesticides before final disposal. No outbreaks of food- or water-related diseases were reported.

Shelter

Assessments of physical damage and the detailed identification of homeless people were coordinated by AFAD and conducted by the Turkish Red Crescent Society and the local authorities. This provided an overview of the immediate and long-term needs of the affected population. Finding transitional shelter solutions was defined as the highest priority in view of the approaching winter. Initially, tent cities were set up and individual tents were provided to families wishing to stay within the vicinity of their damaged houses. Fig. 7 illustrates the number of blankets and tents provided during the first eight days after the Van earthquake of 23 October 2011.

[4] According to information received from the Van Health Administration during the assessment mission, 13-16 February 2012.

Fig. 7. Number of blankets and tents provided during the first eight days after the Van earthquake, 23 October 2011



Source: Comparing the current impact of the Van Earthquake to past earthquakes in Eastern Turkey. CEDIM Forensic Earthquake Analysis Group – Report #4. Status: Wednesday November 2nd, 2011, 18:00 Central European Time. Karlsruhe, Center for Disaster Management and Risk Reduction Technology, 2011 *(5).*

The Ministry of Health opened health centres in Van city offering PHC services, including vaccination and maternal and child-health services in all tent cities and in container cities with more than 300 containers. In addition, psychologists, social workers and psychiatrists were assigned to provide counselling services.

At the time of the mission, 35 976 victims were located in public facilities in other cities. They were housed in 28 619 containers, 425 prefabricated houses and 3794 *"*mevlana*"* prefabricated houses (long-term shelter) at 33 points. Furthermore, it was planned to build 16 500 container houses to accommodate the victims until permanent houses were constructed.

Visiting health personnel were provided temporary accommodation in tents and in the nursing home of the Ministry of Family and Social Policy of Van where, by 15 November 2011, 350 medical personnel had been accommodated. In addition, containers were provided by the Ministry of Health in the garden of the Van Research and Training Hospital for personnel whose homes were damaged.

Recovery response

The provision of transitional shelter was identified as the highest priority in the recovery phase and reconstruction activities started in the affected areas in November 2011. At the time of the mission, the preparation of the foundations of permanent concrete houses was underway and it was foreseen that reconstruction would be completed within a year, funded from national sources. The Van Province Administration would receive state allocations for the repair of infrastructure.

The Turkish Government was providing financial and in-kind aid to individual disaster victims, such as rent aid, temporary housing for a two-year period for those who had to be relocated due the destruction of their homes, interest-free credit for reconstruction, and repair and reinforcement funds for those whose houses and offices were damaged.

The recovery efforts of the Ministry of Health were focused on reconstituting the public health infrastructure for the general population and, particularly, on supporting the population living in transitional shelters by:

- providing PHC services through medical teams, including routine vaccination in all container cities with more than 300 containers;
- closely monitoring the crowded living environments in the container cities with a view to water and sanitation safety (Public Health Department);
- providing psychosocial services.

Acknowledging that the protection and improvement of people's mental health and psychosocial wellbeing is one of the priorities in an emergency situation, the Ministry of Health dispatched psychiatrists, psychologists and counsellors immediately after the event to support the local mental-health staff in its task. The recently opened Community Mental Health Centre in Van, one of 208 such centres established in Turkey, hosted external psychiatrists for three months after the earthquakes to make mental health services and outreach activities available to the general population, including those living in temporary settlements. A WHO-supported mental-health project, "Immediate mental-health and psychosocial support for people affected by the Van earthquake" was started in February 2012 with the aim of enhancing the capacities of PHC workers and specialized mental-health workers in detecting, diagnosing and treating psychological ailments resulting from the earthquakes. On 16 November 2011, WHO received funding from the Central Emergency Response Fund (CERF) for the immediate support of those with mental-health and psychological difficulties as a result of the earthquakes.

During the period November 2011–April 2012, WHO, in conjunction with representatives of the Ministry of Health, the Health Directorate of Van Province and professional organizations, including nongovernmental organizations (NGOs), as well as local health-care staff, conducted a rapid assessment of the training needs of local health-care staff in Van and Erciş. As a result, the following categories of staff were identified for training activities in emergency psychiatric and psychological care: psychiatrists and psychologists; family physicians and general practitioners; and nurses and social workers.

The trainers were selected from various universities and from the Union of Psychosocial Support in Disasters, an umbrella NGO and one of the most active in the area of the Van earthquake. Training materials were produced by the Turkish Psychiatric Association, which is one of the six associations under the umbrella of the Union.

Training sessions started on 3 February 2012. Thirty-eight local mental-health staff (psychiatrists, psychologists, and social workers) working in Van and Erciş health facilities received training on the early diagnosis and treatment of trauma-related disorders and the rehabilitation of those affected. A total of 288 family physicians and nurses working in Van and Erciş family health centres received training on raising awareness about trauma-related disorders and their diagnosis and treatment.

In addition, a survey to identify trauma-related disorders was planned for the second half of May 2012. The last activity of the project, i.e. a training workshop on psychosocial support

methodology, technical inputs and community response with regard to the earthquake-affected population in Van, would take place in Van on 29 May 2012.

Discussion

Conditions favourable to a lower number of fatalities existed at the time of the Van earthquake, such as the fact that it hit on a Sunday afternoon. Had it struck during normal school hours, there would have been many more victims as a result of the collapse of numerous school buildings.

The geophysical presentation was favourable in that the epicentre of the earthquake was between Erciş and Van (not close to a city), its duration was long and its energy release was slow, which reduced the collapse or serious damage of newer buildings. The newly constructed University Hospital (which was not yet open) and the Research and Training Referral Hospital built in 2007, sustained only minor damage. The latter was fully functional throughout the duration of the earthquake response, apart from a few days after the second shock when staff and patients perceived the building as unsafe. However, after assessing it, the engineers of the Ministry of Health and Gazi University concluded that it was safe. Since the perception of personal risk varies, the University placed a formal letter confirming the safety of the building at its entrance, which proved to be a good way of alleviating fear and increasing trust.

The frequent heavy aftershocks placed a serious strain on the population; uncertainty left many homeless, too frightened to enter their houses or offices. This fact was well demonstrated even three months after the major earthquake; many individual tents were still erected in gardens, streets, fields, etc., close to the houses and used mainly at night.

Clearly, the rapid and efficient medical response of the health sector can be attributed to the drastic improvements made in recent years in the Turkish disaster-management and coordination structure and to high-level political and financial commitment in this area *(14).*

The health sector was well prepared: the provincial health disaster and emergency plan had been finalized in March 2011 according to a new format, and the simulation tests and exercises included in hospital disaster plans had been conducted by UMKE only two weeks prior to the Van earthquake. The equipment and tents used during these exercises were still on site when it hit, making it possible to erect a hospital tent within hours. Training in emergency response and crisis management had been carried out twice in the preceding year in conjunction with the neighbouring provinces. In the aftermath of the disaster, medical evacuations could, therefore, follow planned and tested procedures and, thus, accomplish almost 1700 medical evacuations to neighbouring provinces and Ankara within the shortest possible period of time. The hospital-evacuation plan had been tested in the Erciş State Hospital and the Research and Training Referral Hospital two weeks prior to the event. It was reported that, on 9 November 2011, the latter evacuated 1500 patients from outpatient departments, wards and operating theatres to tents in the hospital gardens within minutes.

In the aftermath of the event, the crisis-management team of the Ministry of Health was able not only to provide strong managerial and logistical support (including vehicles and equipment) to the Van Health Administration, but also additional health staff of all specialties, as well as management and coordination capacity. The last-mentioned comprised volunteers from other provinces with experience in emergencies who teamed up with the local health teams to provide services.

Contrary to usual procedures, the health-related management of the crisis was placed in the hands of “external” coordinators, a course of action that should be evaluated carefully. Whilst emotional stress can hamper rational decision-making, the provincial health administration is

trained to cope with such events and is best informed about specificities at the ground level. It is also trained in coordinating the multiple sectors involved in the response at the provincial level and there is trust among the partners, built up through many years of collaboration. A sudden and unexpected disruption of the usual chain of command could increase the stress levels of the local responders and may, therefore, not be justified. In addition, introducing a high turnover of voluntary health staff in leadership positions instead of using local staff could contribute to reducing the smoothness of a well-rehearsed team.

The local search-and-rescue teams were operational immediately; additional teams from neighbouring provinces were in place within hours. Wherever possible, fully equipped ambulances were on stand-by close to the search-and-rescue operations (Van Province has several multiterrain ambulances able to withstand rubble and debris). With over 50 UMKE dispatched at the same time, the identification and follow up of victims could have been facilitated by appointing a person dedicated to recording the personal data of each victim and the place of evacuation/treatment.

Psychosocial support was established during the first days; all patients were screened for traumatic stress disorders and treatment was offered. The free hotline, 113-Van-helpline, was (is) an important source of medical and social information for the affected population and was widely used. In the months or even years to come, post-traumatic stress disease is likely to increase. Therefore, the activities carried out under the joint Ministry of Health-WHO project on capacity building with a view to providing primary health care represent an important addition to the existing services.

After the termination of the medical rescue operation, the most important problem was lack of housing. The sequence of aftershocks resulted in a larger number of people than usual evacuating their homes, even if these were not severely damaged or destroyed. This resulted in a larger number of homeless people than is usual in connection with earthquakes of such magnitude and the approaching winter with freezing temperatures posed an additional threat. Therefore, in the first days after the Van earthquake, the difficulties were connected more to the lack of tents/shelters than to the management of the tent cities. Due to the high number of people living in the tent cities, problems relating to sanitation facilities, security, communication and transport were reported. With the establishment of container cities with direct access to communal water and sanitation, schools, medical points and social care, the situation improved. Nevertheless, a huge portion of the displaced population was located close to their homes (in individual tents) or dispersed in other provinces.

Disease surveillance, especially of foodborne and waterborne diseases, was increased to daily monitoring and no outbreaks of disease or changes in disease pattern, as compared to previous years, were reported.

The increasingly institutionalized emergency-preparedness programme clearly played a role in the rapid response. However, a major contributing factor – that cannot be planned or tested – was the strong commitment of the dedicated medical staff of Van Province. In spite of their own emotional distress, they remained in their positions and accepted periodic separation from their families who had left the Province temporarily. Equally, the volunteers (psychiatrists, social workers, nurses, public health specialists, medical doctors, laboratory technicians, etc.) played an important role in ensuring the very effective response to this event. Although shelter for medical staff was not included in the provincial emergency-preparedness plan, the Ministry of Health was able to provide them with appropriate shelter and food in a timely manner.

Lessons learnt and action recommended

The main lesson to be learnt from the Van earthquake is the importance of preparedness at the national and provincial levels. Planning, testing and conducting simulation exercises raised the levels of awareness and confidence of the medical stakeholders. This enabled them to provide the demonstrated quick and effective response, taking all aspects relating to the provision of medical services into consideration, including those related to public and mental health.

The Ministry of Health introduced a new strategy of outsourcing crisis management to experienced personnel of other provinces and instituted a medical helpline. To evaluate the efficiency of these interventions and the response, the Ministry may consider organizing a multidisciplinary, multisectoral workshop to enable stakeholders to share experiences, expectations, results and lessons learnt. For example, the roles and responsibilities of, and the links between, the different health providers, such as family physicians and community health centres, could be evaluated and, where appropriate, further integrated with emergency-response planning. The ongoing process of formulating the National Disaster Strategy 2012 and the National Earthquake Action Plan 2011–2023, provides an opportunity to consider the inclusion of new strategies in emergency-preparedness plans at all levels.

During the coming year, the Ministry of Health may wish to consider looking into the specific needs of those living in tent and/or container cities, such as special education in health, sanitation and safety measures (fire drills, waste disposal), and establishing a research programme targeted at ensuring the integrated care of this population group by community health centres and family physicians.

The response to the Van earthquake also demonstrated the need to provide appropriate housing for the additional relief staff and homeless local staff within the vicinity of their workplaces, as well as psychosocial care for health staff in the early phase of a response.

Conclusions

The impact of an earthquake of such magnitude as those, which occurred in Van Province on 23 October and 9 November 2011, had not been experienced in this region of eastern Turkey for at least 35 years *(5)*. By global standards, the number of casualties and the economic consequences were relatively small considering the magnitude of the earthquakes (M7.2 and M5.6, respectively) and the ground motion involved. However, damage to buildings and infrastructure was substantial and influenced the severity of the disaster. Poor-quality construction material, the non-compliance of infrastructure and buildings with earthquake building codes, and lack of inspection were the main reasons for the damage *(22)*.

The main concern was the immediate and timely provision of appropriate temporary housing for the many homeless.

The medical response was quickly and effectively coordinated by the Ministry of Health. Within hours, over a hundred UMKE and ambulance teams had been dispatched and over 200 victims saved from the rubble. Damaged or collapsed medical facilities were evacuated and tent hospitals erected. A system of triage, referral and medical evacuation was established. In the first hours and day of the Van earthquake, medical support teams from all over Turkey, with a broad range of specialties (public health, environmental health, psychosocial health and all clinical disciplines), as well as teams of engineers, medical supplies and equipment, arrived in Van.

No changes in disease pattern or outbreaks of food- or waterborne disease were reported. With the phasing out of the initial relief operation, the emphasis shifted to recovery efforts aimed at reconstructing and strengthening the institutional capacity and achieving long-term health and development goals.

Abdullah Gül
Türkiye Cumhurbaşkanı

Sayın Prof. Dr. Recep AKDAĞ
Sağlık Bakanı

Ankara, 11 Kasım 2011

Sayın Bakan,

23 Ekim 2011 Pazar günü Van Erciş'te meydana gelen deprem nedeniyle tüm Türkiye, gerek arama kurtarma faaliyetleri, gerek sağlıkla ilgili hizmetlerin yürütülmesi, gerekse yaraların sarılması konusunda adeta seferber olmuştur.

Bu süreçte Sağlık Bakanlığımızın ve görevli tüm sağlık personelimizin depremin ilk saatlerinden itibaren geniş bir koordinasyon içinde yürüyen çalışmaları takdire şayandır. Ben de Bayram'ın birinci günü Van'a gerçekleştirdiğim ziyaret sırasında bunu memnuniyetle müşahede ettim ve gurur duydum.

Depremden etkilenen vatandaşlarımızın gönlünde müstesna yer edinen güzel hizmetlerinizden dolayı sizi ve tüm fedakâr personelinizi yürekten tebrik ediyor, başarılı çalışmalarınızın devamını diliyor, selam ve sevgilerimi iletiyorum.

The dedicated efforts of UMKE were applauded by the public and in the media.

In a letter to Professor Recep Akdağ, Minister of Health, His Excellency President Abdullah Gül complimented the Ministry on, and expressed his appreciation of, the health response to the Van earthquakes.

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Annexes

Annex 1. Members of the assessment team

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Mr Hamit Karataş
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Deputy Provincial Health Director

Mr Saim Çiçekdenk
Head, Training Division

Van Training and Research Hospital

Professor Mustafa Berktaş
Chief Physician

Ms Kamer Aytürk
Head Nurse

Van 112 Command and Control Centre

Mr Hamit Karataş
Deputy Provincial Health Director

Mr Adnan Öğretici
Head, Emergency Health Services Unit

Ilpekyolu State Hospital Community Mental Health Centre

Dr Hacı Yusuf Güneş
Chief Physician

Dr Özgür Özbebit
Psychiatrist

Yüzüncüyıl University

Professor Peyami Battal
Rector

Yüzüncüyıl University Hospital

Professor Ahmet Faik Öner
Dean

Erciş

Erciş State Hospital[5]

Dr Ahmet Türkoğlu
Chief Physician

Mr Kazim Bilici
Director

Ms Ayşe Tekin
Chief Nurse, Emergency Department

Erciş State Mobile Hospital

Dr Hakan Dülger
Deputy Chief Physician

Hacı Mehmet Container City Health Unit

Dr Selin Tunali Çokluk
Physician

Ms Tuğba Aksoy Doğan
Midwife

Mr Deniz Taşdemir
Health Officer

[5] Interviews took place at the Erciş Community Health Centre where the hospital continued to function after the earthquakes.

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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“New diseases are global threats to health that also cause shocks to economies and societies. Defence against these threats enhances our collective security. Communities also need health security. This means provision of the fundamental prerequisites for health: enough food, safe water, shelter, and access to essential health care and medicines. These essential needs must also be met when emergencies or disasters occur.”

– Dr Margaret Chan
WHO Director-General

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