



SYRIA EARTHQUAKE INJURY ASSESSMENT

ACU'S FINDINGS FROM A HEALTH FACILITY REGISTERS
SURVEY CONDUCTED IN NORTHWEST SYRIA

MARCH 2023



Funded by MEAE



**MINISTÈRE
DE L'EUROPE
ET DES AFFAIRES
ÉTRANGÈRES**

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ACU aims to strengthen the capacity of actors in the Syrian crisis to make decisions, by collecting data on the humanitarian situation in Syria, analyzing it, and sharing it. For this purpose, through the Information Management Unit, ACU established a huge network of enumerators selected based on certain criteria such as the education level, their relations with various sources of information, their ability to work in different circumstances, and their ability to communicate in all situations. The Information Management Unit collects data that is difficult for international actors to obtain. It also issues different types of products, including needs assessments, thematic reports, maps, flash reports, and interactive reports.

Acknowledgment

We would like to express our sincere gratitude to all the entities and individuals who contributed to completing this survey. Special thanks to the Health Cluster Team/WHO Gaziantep office, the implementing partners, the health staff in the health facilities, community leaders, and the ACU field team for their valuable contributions and cooperation in collecting and compiling the data. We appreciate their dedication and commitment to improving healthcare in northwest Syria.

Thank you all for your support.

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Acronyms

NWS	Northwest Syria
ACU	Assistance Coordination Unit
ICD-10	International statistical Classification of Diseases – tenth version
IDPs	Internally displaced people
NOS	Not Otherwise Specified

Introduction

The recent earthquake that struck the south of Turkey and the north of Syria on the 6th of February has caused widespread destruction and devastation in the region. Thousands of people lost their lives, and many more were injured. The aftermath of this disaster has left many families displaced and in desperate need of medical attention. In response to this crisis, the Assistance Coordination Unit (ACU) conducted a survey in health facilities in northwest Syria to assess epidemiologically earthquake-induced injuries in northwest Syria. This report aims to present this survey's findings and provide insights into the types of injuries sustained by individuals affected by the earthquake using the International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD 10). This report highlights the urgent need for medical aid and support in the affected areas to prevent further loss of life and alleviate the suffering of those impacted by this tragic event.

Background

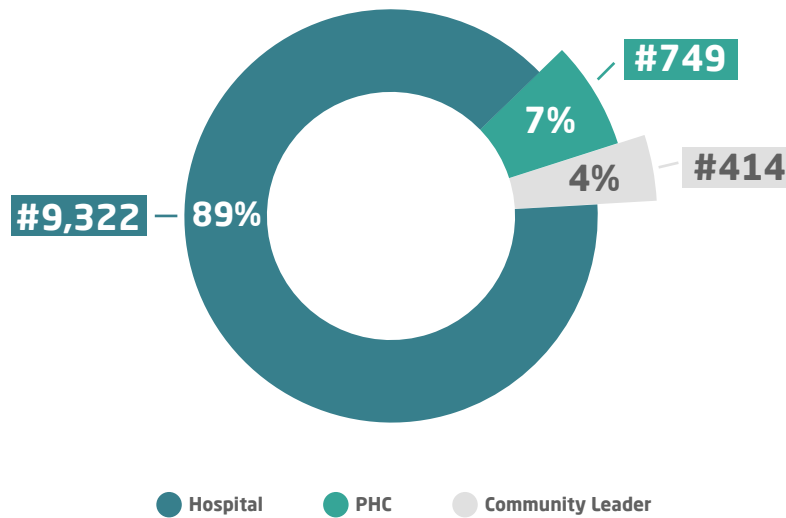
Natural disasters like earthquakes can cause significant damage and loss of life. In such circumstances, collecting and analyzing real-time data can be challenging due to limited resources, communication breakdowns, and other logistical constraints. Therefore, retrospective data analysis of the deaths and injuries induced by the earthquake is highly important. This approach enables a comprehensive understanding of the extent and severity of the impact, which can inform disaster response efforts, including allocating resources and medical assistance. Additionally, retrospective data analysis can identify gaps in disaster preparedness and response, which can inform future efforts to mitigate the effects of natural disasters.

(ACU) recognizes the importance of a reliable health information system (HIS) in responding effectively to this disaster. From this point of view, ACU is fully committed to supporting the existing health information system (HIS) and enhancing its capacity to provide reliable and useful information for response efforts.

Methodology

This report used a health facility-based methodology, which involved gathering information on injuries from patient registers in hospitals and primary healthcare centers in northwest Syria. The survey received a total of 10,485 records of injured individuals, with 9,322 (89% of the total) being collected from hospitals and 749 from PHCs. The report also included data on injuries from community leaders, such as camp managers or local councils, which represented only 4% of the total collected records (as shown in Chart 01). Some private hospitals collaborated with the team to provide available data. The survey was conducted by the field team of ACU, which included EARN, IMU, WASH, and DPU, and its primary objective was to compile a line list of the injured individuals' names, ages, sexes, the hospitals they were admitted to, and the description of their injuries. The survey was carried out in coordination with the Health Cluster/WHO and other humanitarian implementers in northwest Syria. Injuries unrelated to the earthquake were excluded from the survey, which lasted from February 15 to March 05.

Chart 1: Number of injured individuals according to the source of information.



To prevent the data from overlapping, the team removed any duplications. A descriptive analysis of injuries by the region of the body of injury, and the nature of the injury, was conducted to provide an overview of the extent and type of injuries sustained by those affected by the earthquake. Overall, the survey methodology aimed to provide a comprehensive understanding of the injuries caused by the earthquake and to guide the response efforts of humanitarian organizations and local health authorities.

Findings:

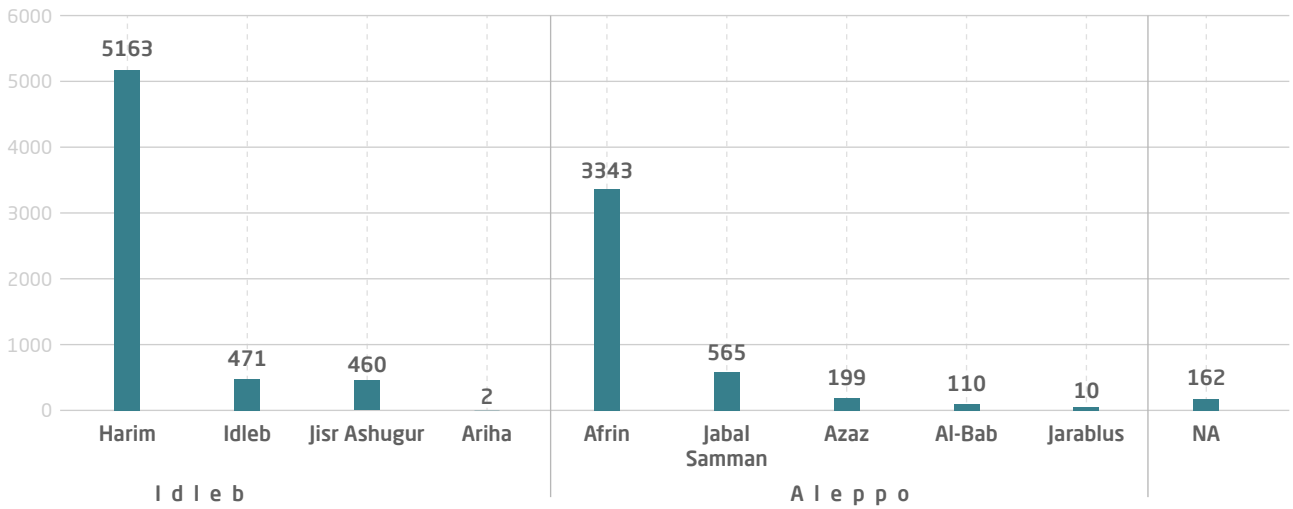
The personal information of the injured:

Geographical distribution of the injured by the place of residence:

The data analysis revealed that a total of 10,485 people were injured after the earthquake. Harm and Afrin districts were the most severely affected districts with the highest injuries recorded. Harim had 5,248 injured people (50.05% of the total), and Afrin had 3,343 injured people (31.88% of the total). The geographical distribution is according to the place of residence at the time of the earthquake. The number of injured in the Jandairis community, one of the most affected communities, is 2023, representing 19.02% of the total injured.

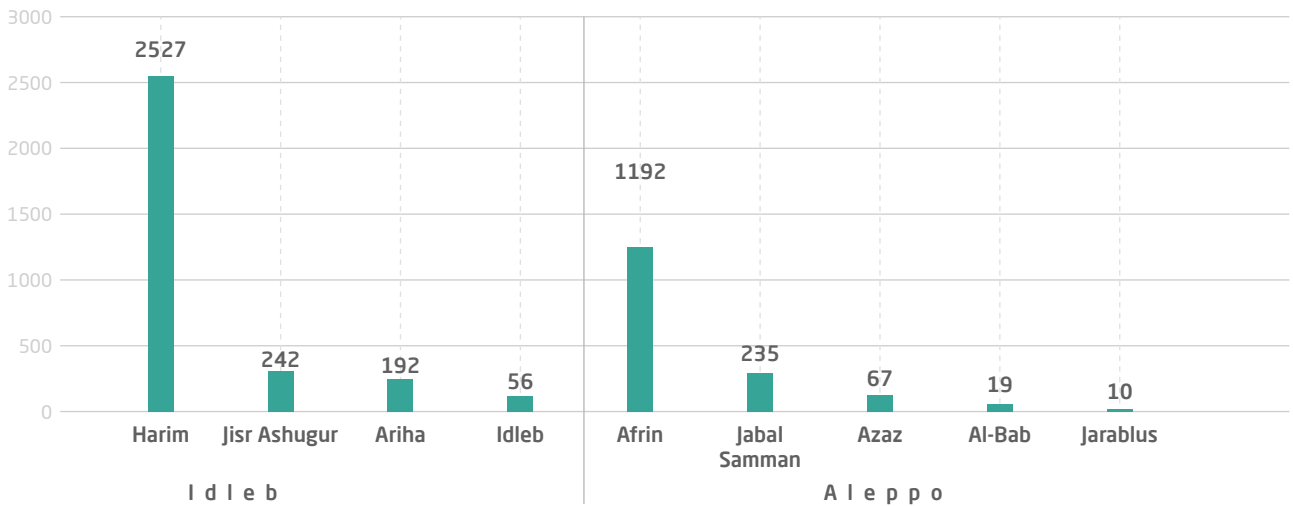
The chart (02) demonstrates the geographical distribution of the injured in NWS. The geolocation was not identified in 162 cases.

chart (02): The geographical distribution of the injured in NWS



According to the latest situation reports from ACU EQ, it has been reported that there have been a certain number of fatalities as a result of a preliminary assessment (chart 03). ACU has been actively working on assessing the death toll and is expected to release the official figures within a month.

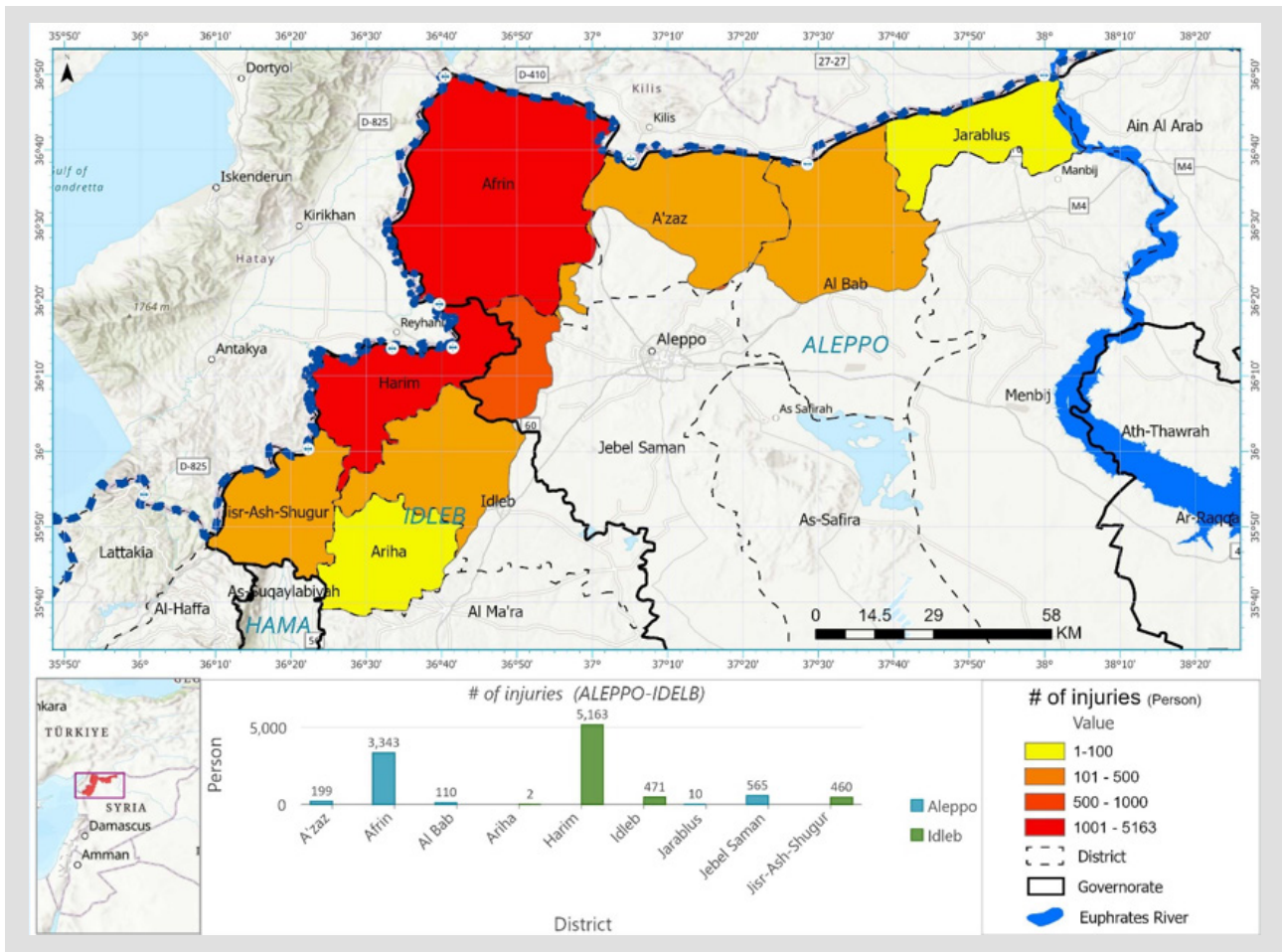
Chart (03): Number of casualties according to the previous aggregate assessment conducted by ACU.



Map of the injured:

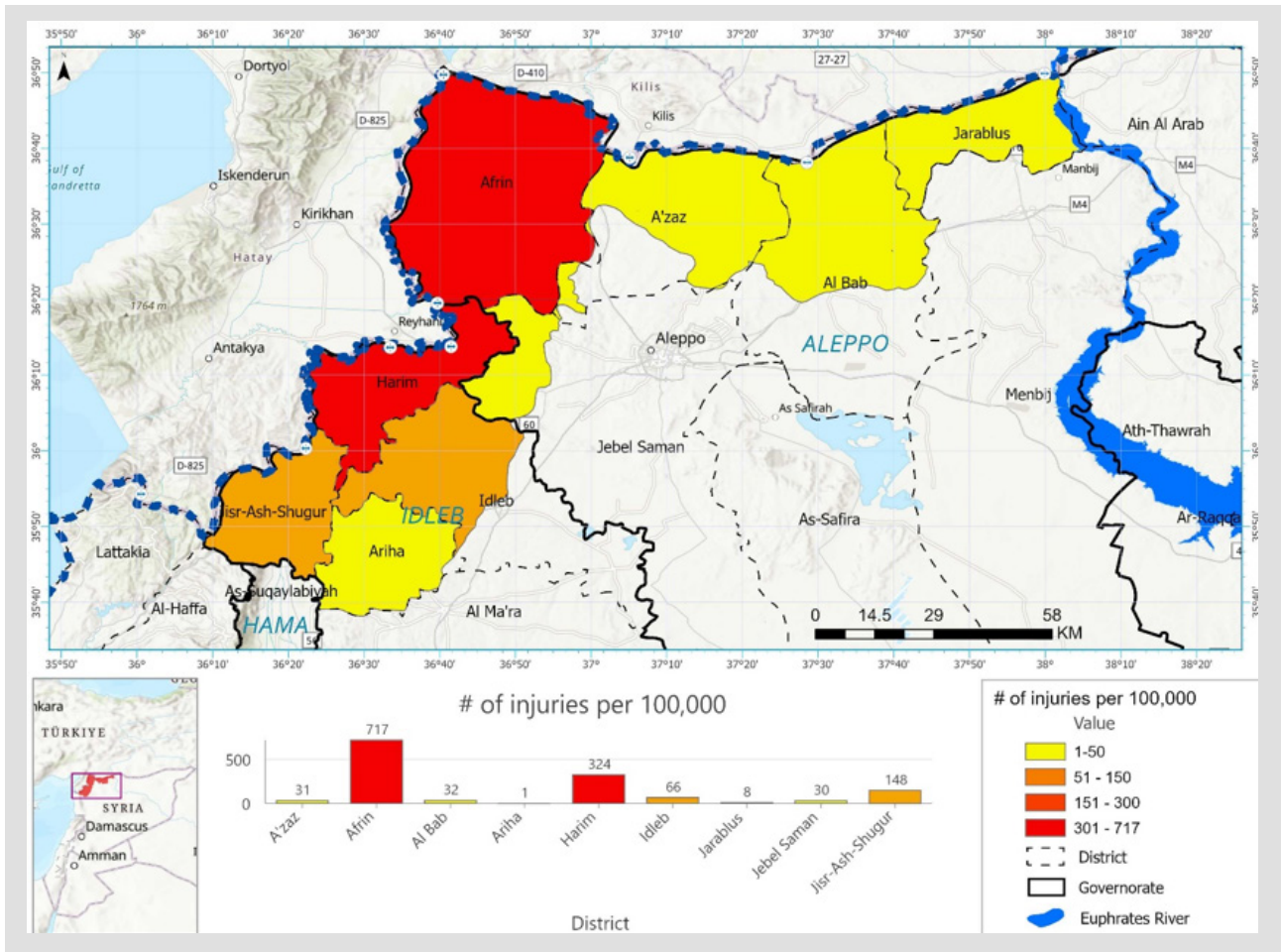
The map 1 illustrates the number of injured individuals at the district level in northwest Syria, as recorded by the survey. It should be noted that there was a significant amount of missing data about the residency place of injured individuals at the community level, which may affect the accuracy of the findings in certain areas.

Map (1): number of injured individuals at the district level in northwest Syria



Presenting the number of injured individuals per 100,000 of the population can provide a better understanding of the severity of the earthquake and its impact on the affected areas. According to the data, Afrin district had the highest number of injured individuals per 100,000 with 717, followed by Harim district with 324. Map 2 illustrates the distribution of the number of injured individuals per 100,000 of the population at the district level in NWS.

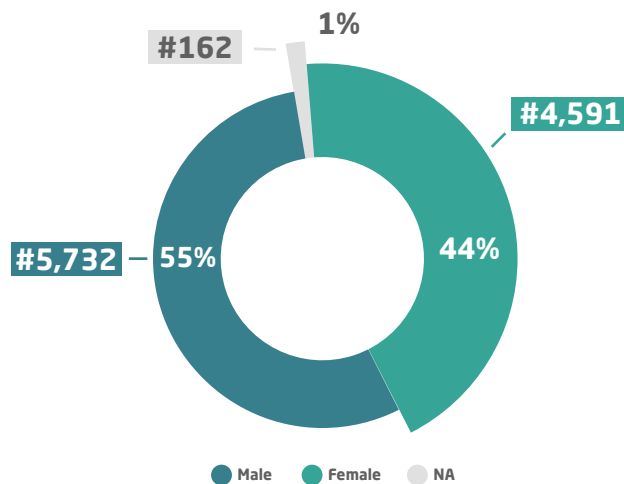
Map 2: distribution of the number of injured individuals per 100,000 of the population at the district level in NWS.



Gender distribution:

4,591 (44 %) were females, and 5,732 (55 %) were males. Males were more affected than females, but the gap is not significant. The data on gender was not available in 162 cases. Chart (03) shows the demographic characteristics of the injured.

Chart (4): Gender distribution of injured



The age groups of the injured differ, with most children affected (5 to 14 years). The second highest affected age demographic after children were the age group of 25–34 years or early-aged adults. Data on age was not available in 1,328 cases. The chart (04) shows the age distribution of the injured.

Chart (5): Age groups distribution of injured

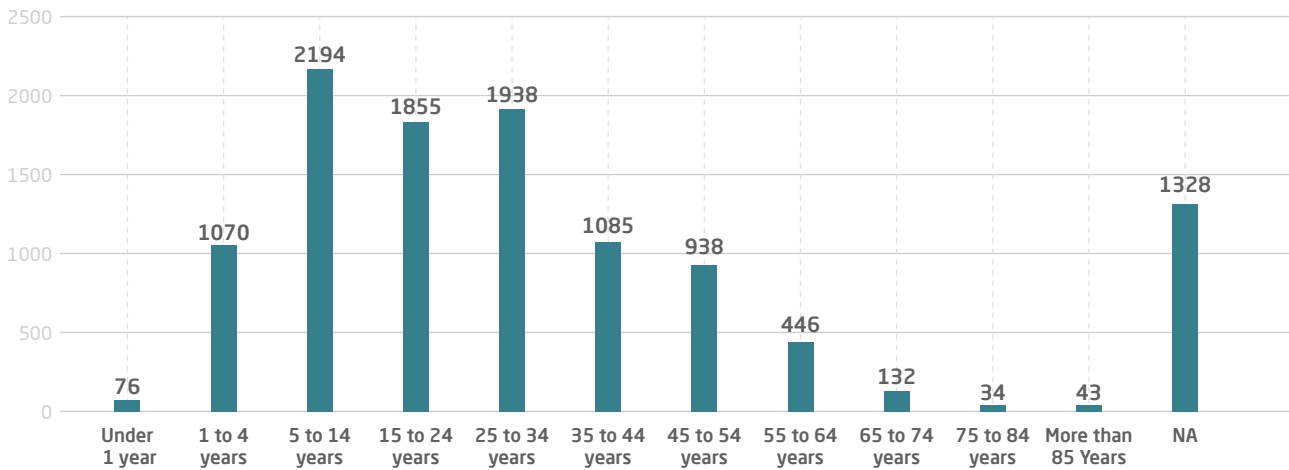
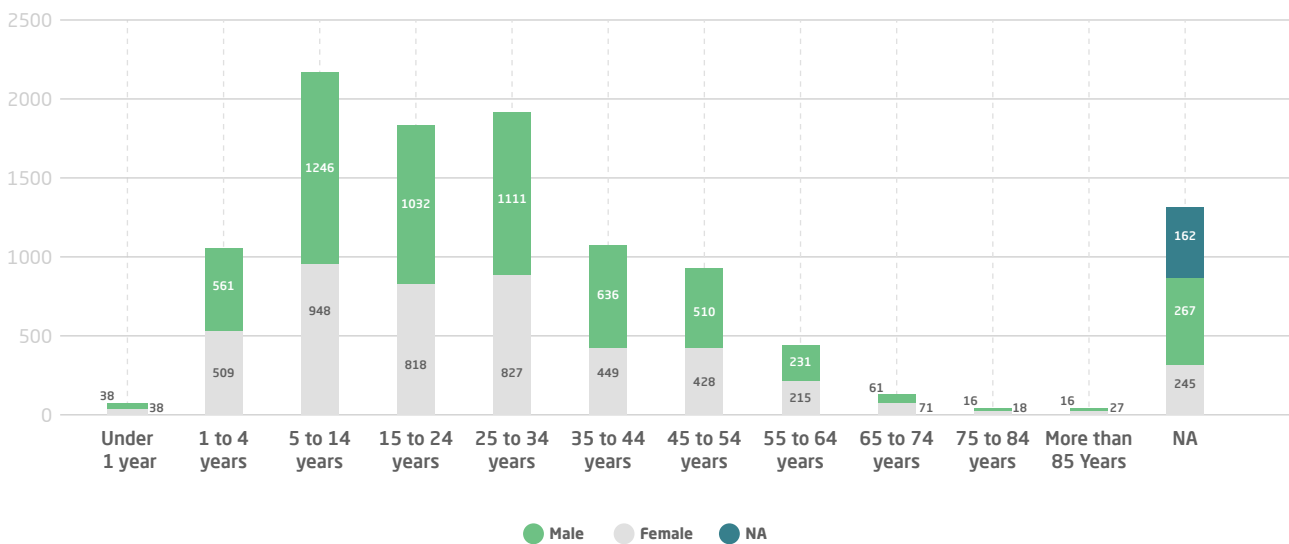
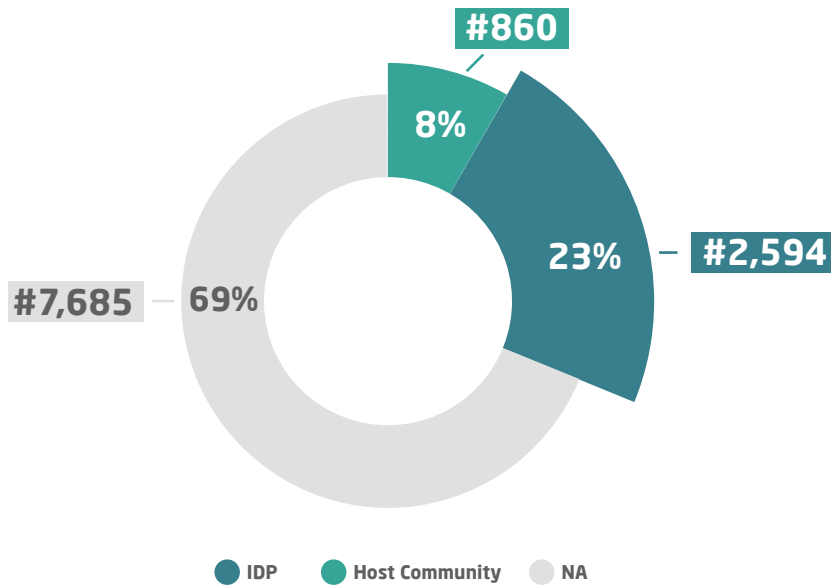


Chart (6) Age groups and gender of the injured



There was a significant gap in the data available on the residency status of the injured if the case was from the host community or IDP. The collected data shows that 860 were from the host community and 2,594 were IDPs, while in 69% of cases, this information was unavailable.

Chart (7) Residence status of injured



Type of injuries, in the described out of the total:

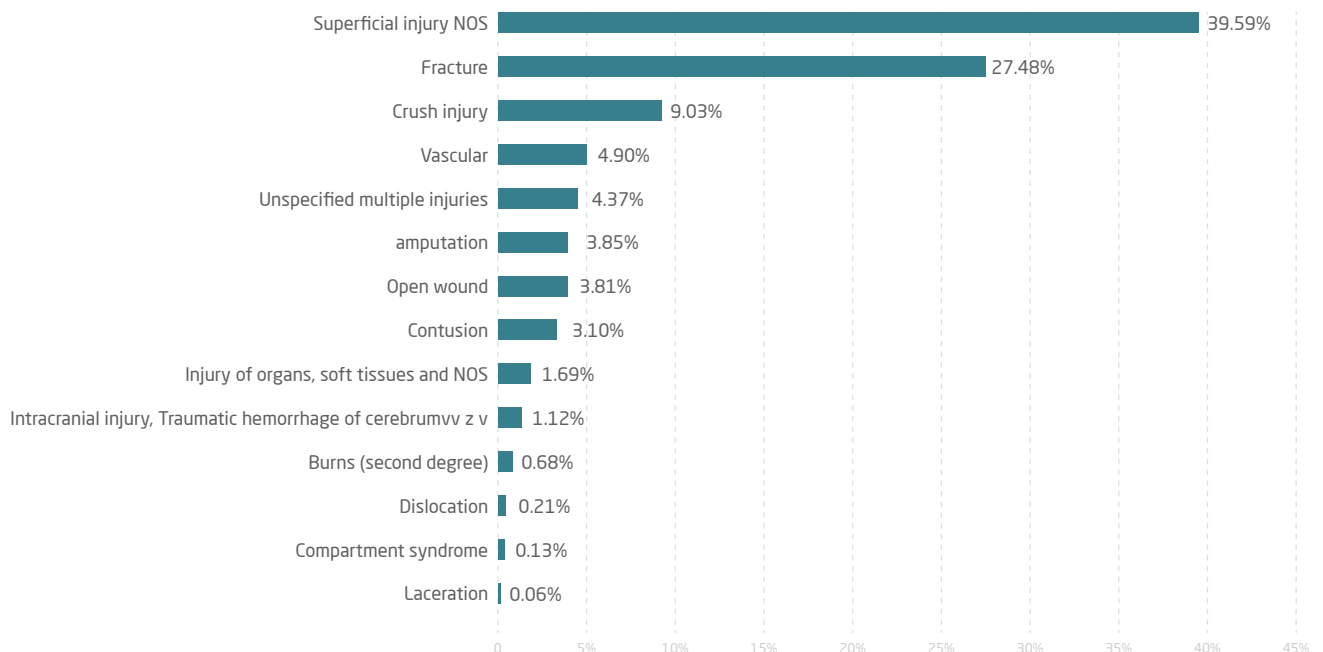
To analyze the epidemiology of earthquake-induced injuries in the affected population, we employed the International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD 10), as a standardized tool. Our analysis includes a detailed breakdown of injuries by body region, type, and number in the earthquake’s aftermath. The identified types of injury comprise contusions, superficial injuries, lacerations, fractures, dislocations, open wounds, injuries to organs, soft tissues, and NOS (not otherwise specified), crush injuries, amputations, second and third-degree burns, compartment syndrome, unspecified multiple injuries, and vascular injuries.

The description of the injury was found in 3,285 injured of the 10,485 (31,33% of the total injured people in NWS). There were 1,642 cases of single injury and 1,643 cases of multiple injuries.

According to the data presented in table (01), a total of 3,285 people were injured, resulting in 6,802 distinct injuries recorded in the health facilities of NWS.

Body region	Head	Neck	Thorax	Abdomen	Lower back	Pelvis	Shoulder, upper arm	Elbow, forearm	Wrist, hand	Hip, thigh	Knee, lower leg	Ankle, foot	NOS	Total, no.
Injury diagnoses														
Contusion	85	1	13	7	8	7				1	58	31		211
Superficial injury NOS	26	1					6	4	30		2	19	2605	2693
Laceration												1	3	4
Fracture	290		18		211	21	34	41	64	38	110	62	980	1869
Dislocation							7	2		3	2			14
Open wound	117		1	2	2	3		7	59	7	16	33	12	259
Injury of organs, soft tissues and NOS	32		2	9									72	115
Crush injury								2	13	1	10	3	585	614
Amputation								1	4	2	6	1	248	262
Burns (second degree)			1	2					5	7	4	9	18	46
Compartment syndrome											9			9
Unspecified multiple injuries.													297	297
Vascular trauma													333	333
Intracranial injury, Traumatic haemorrhage of cerebrum	76													76
Total	626	2	35	20	221	31	47	57	175	59	217	159	5153	6802

Chart (6) Age groups and gender of the injured



The most commonly reported injuries were superficial injuries (n=2693) (39% of the total), followed by fractures (n=1,869) (27% of the total) and crush injuries (n=614) (9.3% of the total). The number of amputations (262 cases) represents 3.85% of the total injuries.

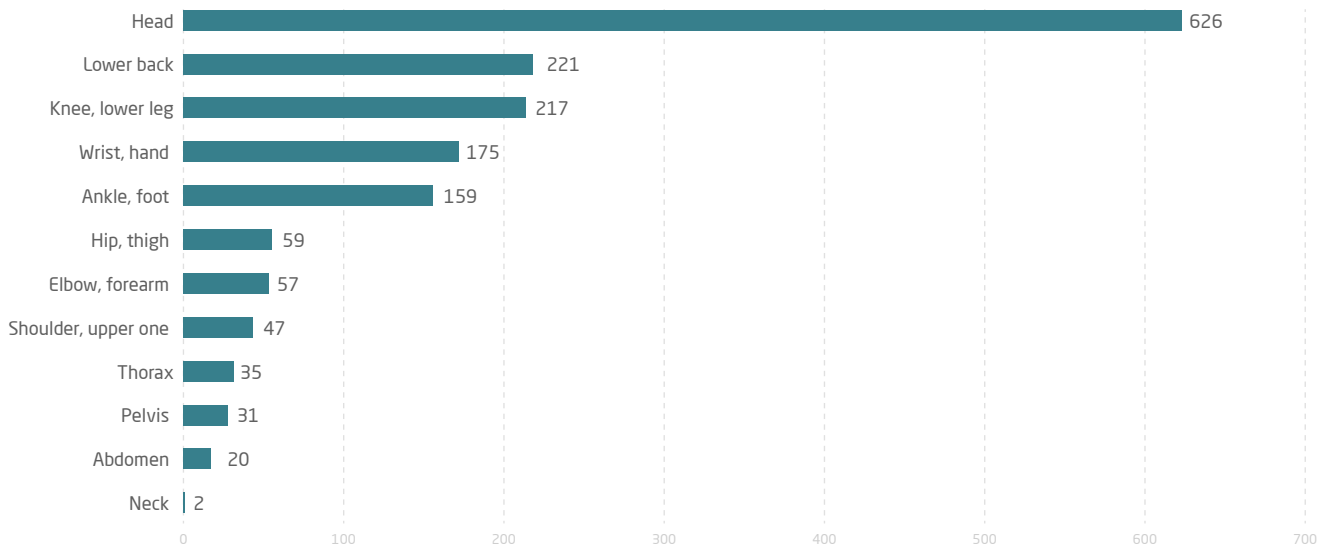


Chart 4 above shows the distribution of injuries across different body regions. The data indicate that injuries to the head were the most common, accounting for 626 cases, followed by injuries to the lower back (221 cases), knee and lower leg (217 cases), wrist and hand (175 cases), and ankle and foot (159 cases). Injuries to the neck had the lowest number of cases, accounting for only 2 cases, followed by injuries to the thorax (35 cases), shoulder and upper arm (47 cases), and elbow and forearm (57 cases).

In terms of ICD-10 classification, most injuries (76%) were categorized in the class "T08-T14 Injuries to an unspecified part of trunk, limb or body region", with a total of 5153 cases. The class of "S00-S09 Injuries to the head", which count (626) 9%, followed it, and "S30-S39 Injuries to the abdomen, lower back, lumbar spine and pelvis" made up 4% of total injuries (272).

XIX INJURY, POISONING AND CERTAIN OTHER CONSEQUENCES OF EXTERNAL CAUSES	NUMBER	PERCENTAGE
S00-S09 INJURIES TO THE HEAD	626	9%
S10-S19 INJURIES TO THE NECK	2	0%
S20-S29 INJURIES TO THE THORAX	35	1%
S30-S39 INJURIES TO THE ABDOMEN, LOWER BACK, LUMBAR SPINE, AND PELVIS	272	4%
S40-S49 INJURIES TO THE SHOULDER AND UPPER ARM	47	1%
S50-S59 INJURIES TO THE ELBOW AND FOREARM	57	1%
S60-S69 INJURIES TO THE WRIST AND HAND	175	3%
S70-S79 INJURIES TO THE HIP AND THIGH	59	1%
S80-S89 INJURIES TO THE KNEE AND LOWER LEG	217	3%
S90-S99 INJURIES TO THE ANKLE AND FOOT	159	2%
T08-T14 INJURIES TO UNSPECIFIED PART OF TRUNK, LIMB OR BODY REGION	5153	76%

It is important to note that the table does not provide information on the severity of the injuries, which could range from minor to life-threatening.

Challenges:

Non-availability of the complete records of the description of the injury, which was missing in one-third of the total injured and reflects the low completeness of the data.

The lack of a common standardized language to describe the injuries, which made it difficult to compare and analyze the data.

Due to the massive cases received in some health facilities, personal information of injured individuals was not recorded upon admission. The names of severely injured individuals were unknown, particularly in the heavily affected Harim district.

Some health facilities' sharing of complete injury details was limited due to their policies, particularly in northern Aleppo. Some health facilities initially showed reluctance to collaborate, but with recommendations and support from the health cluster, they eventually provided the full set of available data.

Lessons learned and recommendations:

It was evident in this survey that coordination through health cluster and inter-sector cluster was critical to increase the effectiveness of the response. The health cluster played a significant role in providing support to increase the completeness and collaborating from the partners.

Based on the findings of this survey, it is recommended that further studies be conducted to deepen our understanding of the impact of earthquakes and other natural disasters on public health.

It is strongly recommended to implement measures aimed at strengthening the health information system in the region. This includes enhancing data collection processes at health facilities, providing training programs to healthcare workers on effective data collection and management, and implementing standardized data collection tools to ensure consistency and completeness of data.



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