



**Department of Health and Social Services**  
Adam Crum, MSPH, Commissioner  
Lily J. Lou, MD, FAAP, Chief Medical Officer  
3601 C Street, Suite 540  
Anchorage, Alaska 99503 <http://www.dhss.alaska.gov/dph/Epi>

**Division of Public Health**  
Merry Carlson, Director  
Local (907) 269-8000  
24 Hour Emergency (800) 478-0084

**Editors:**  
Joe McLaughlin, MD, MPH  
Louisa Castrodale, DVM, MPH  
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## 2018 Southcentral Alaska Earthquake Survey Findings

### Background

On November 30, 2018, Southcentral Alaska experienced a 7.0 magnitude earthquake that resulted in considerable infrastructure damage. Shortly after the earthquake, the Alaska Division of Public Health released to the public an online survey to characterize the health impacts of the earthquake on individuals, to assess emergency communication, and to better understand personal preparedness. This *Bulletin* highlights key findings from the survey.

### Methods

The electronic survey was available from December 19, 2018 through January 17, 2019. Information about the online survey and how to access it was disseminated via multiple channels. Hardcopies of the survey were mailed to persons requesting them. Information was collected on a range of topics including effects of the earthquake on physical and mental health, emergency communication, and personal preparedness. Survey respondents were allowed to answer some or all of the questions; the percentages reported were calculated using the number of people who responded to each specific question. Because this was a convenience sample, the data collected are only applicable to survey respondents and cannot be generalized to represent the larger population. The summary results of the questionnaire are available online (see: <http://dhss.alaska.gov/dph/Emergency/Pages/prepared/earthquakes.aspx>).

### Results

A total of 3,020 people responded to the survey. The majority (2,811; 93%) were in the Municipality of Anchorage or the Matanuska-Susitna Borough when the earthquake struck. Respondents' ages ranged from <18 years (n=29, 1%) to ≥70 years (n=199, 7%); the majority of respondents were aged 30–69 years (n=2,389, 83%).

Among the 2,949 respondents who answered questions about injuries, 223 (8%) reported that they were injured during the earthquake, and 252 (8%) reported that they were injured after the earthquake (e.g., when cleaning up). The most commonly reported earthquake-associated injuries were superficial cuts/lacerations, large scrapes/bruises, and strains/sprains. Forty-seven (12%) of the respondents who reported a physical injury received medical care in an outpatient setting; 3 (0.8%) reported being hospitalized. Of the 2,950 people who responded to questions about mental health effects, 2,297 (78%) reported an increase in feelings of anxiety, fear, distraction, or worry; having trouble sleeping; or experiencing panic attacks following the earthquake. Moreover, 985 (59%) of the 1,665 respondents who said they had children reported that their children experienced increased anxiety or other distress.

Among the 2,248 respondents who answered the question about seeking help for a mental health impact, 523 (23%) reported that they sought and successfully obtained help, 91 (4%) reported that they needed help but did not know where to get it, 73 (3%) reported that they needed help but it was too expensive, and 24 (1%) reported that they requested help but were not able to get an appointment. Most respondents (1,537; 68.4%) reported that they did not seek help. Among the 2,894 respondents who answered a question about the single biggest impact of the earthquake for them, the most commonly selected options were “anxiety or other distress” (1,351; 47%) and “destruction of belongings” (503; 17%). Of the 968 respondents who provided additional comments regarding their experience during or after the earthquake, 61 (6%) stated that they had anxiety or concern related to aftershocks.

The two most commonly reported sources of earthquake-related information were Facebook and AM/FM radio; the most

commonly reported preferred sources of information during an emergency were text messages from a state/federal agency (1,339/2,975; 45%) and AM/FM radio (645; 22%). The top three categories of information that respondents said they wanted within a day of the earthquake but did not receive were instructions on how to assess building safety (1,621/2,624; 62%), updates on road closures (1,058; 40%), and updates on building closures (906; 35%). Many (779/2,624; 30%) respondents also reported that they needed information about personal safety during future earthquakes and aftershocks. Finally, many respondents expressed confusion about tsunami notifications.

Among the 2,947 respondents who answered a question about emergency supply kits, 1,352 (46%) reported that they had a kit before the earthquake. The majority of kits contained 3 days of food and water, first aid materials, and flashlights; however, most kits (999; 74%) did not include copies of important documents. The most commonly reported reason for not having a kit was that the respondent did not think that a kit was necessary (402/1,515; 27%).

### Discussion

The November 30, 2018 earthquake in Southcentral Alaska resulted in 400 reports of physical injuries and 2,297 reports of psychological distress among the 3,020 survey respondents. After earthquakes and other natural disasters, it is normal to feel anxiety or other psychological distress.<sup>1</sup> Persons who feel that their stress or their children's stress exceeds what is manageable should seek assistance (see “Resources” below).

Because most of the physical injuries reported by respondents included cuts and lacerations, it is important to remind people to use appropriate personal protective equipment such as foot protection and heavy gloves during clean-up and to be mindful that items may have shifted and can fall when cabinets and closets are opened after the earthquake has ended.

While keeping in mind that the results of this convenience survey are not representative of all Alaskans, the findings from this survey underscore potential areas for consideration regarding the delivery method of emergency communications. For example, agencies looking to increase the reach of their messaging may wish to consider mass texting options.

Lastly, the survey results highlight that fewer than half of the respondents had an emergency kit on-hand. Having an emergency supply kit (e.g., food, water, flashlights, warm clothes, and blankets/sleeping bags) can be life-saving and should be emphasized in future preparedness outreach efforts.

### Resources

1. Tips for coping with earthquakes are available at: [http://www.dhss.alaska.gov/Pages/emergency\\_coping.aspx](http://www.dhss.alaska.gov/Pages/emergency_coping.aspx)
2. Need to talk? The Alaska Careline is Alaska's crisis, support, and suicide prevention hotline. The Alaska Careline is free and available 24/7 at 877-266-4357.
3. Information about personal safety and creating an emergency supply kit are available at:
  - <https://www.ready.alaska.gov>
  - <https://www.ready.gov/earthquakes>
  - <https://www.cdc.gov/disasters/earthquakes/index.html>
4. Persons who require assistance with other disaster-related services are encouraged to contact *Alaska 2-1-1* at 800-478-2221 or online at: <http://www.alaska211.org/>

### Reference

1. Attfield KR, et al. Injuries and traumatic psychological exposures associated with the South Napa Earthquake — California, 2014. *MMWR* 2015;64(35):975–78.