



HOW PREPARED ARE LOS ANGELES COUNTY RESIDENTS FOR AN EMERGENCY?

Introduction

Emergency preparedness has become a major focus of public health planning and programs throughout the United States. The events of 9/11 and Hurricanes Katrina and Rita revealed the vulnerability of Americans to the consequences of catastrophic disaster—whether natural or man-made—and vividly demonstrated the necessity of preparedness efforts at the federal, state, and local levels.

Southern California's geography offers great natural beauty, but also exposes millions of residents to potential disaster. Fires, floods, and mudslides occur regularly in Los Angeles County, and earthquakes pose an ongoing threat. According to the California Geologic Survey, a major earthquake is likely to occur in the Los Angeles region during the next 2 decades.¹

In addition to the area's natural vulnerability, as a densely populated region housing the busiest port in the nation, LA County could become the target of a terrorist attack. The RAND Corporation ranks the city of Los Angeles as one of the most likely U.S. locations to become a terrorist target, based on a model which considers a potential target's vulnerability to attack and the consequences should the target be successfully attacked.²

Since its mission is to protect and improve the health of LA County residents, the County Department of Public Health (DPH) considers emergency preparedness a top priority. To help guide and enhance preparedness planning efforts, DPH has conducted studies among Los Angeles residents to evaluate perceptions and concerns about public health emergencies and to measure emergency preparedness behaviors. In this LA

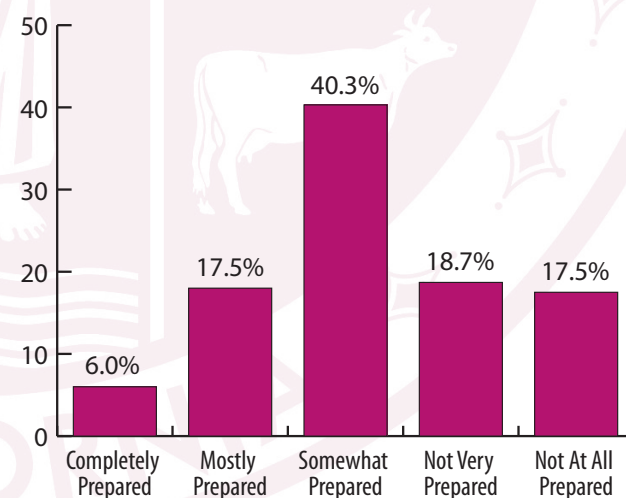
Health, we present key findings from the 2005 Los Angeles County Health Survey (LACHS) and the 2004 Public Health Response to Emergent Threats Survey (PHRETS) with regard to four areas: perceived household preparedness to deal with a catastrophic disaster, reported household emergency supplies and family emergency plans, vulnerable populations, and stated intentions to cooperate in an emergency.

Perceived Household Preparedness

The 2005 LACHS asked non-institutionalized adults (18+ years old) how prepared their household was "to deal with or manage after a catastrophic disaster such as an earthquake or terrorist attack."

- About 36% of survey respondents reported that they were not very or not at all prepared to deal with a large-scale disaster. Most survey respondents (58%) reported they were either mostly or somewhat prepared. Very few respondents (6%) reported they were completely prepared (Figure 1).

FIGURE 1 Reported Preparedness to Deal with Catastrophic Disaster, LACHS 2005



1. California Geologic Survey: Earthquakes. http://www.consrv.ca.gov/CGS/geologic_hazards/earthquakes/index.htm

2. Estimating Terrorism Risk. By Willis HH, Morral AR, Kelly TK, and Medby JJ. Rand Corporation (<http://www.rand.org/pubs/monographs/MG388/>), 2005.

- More females than males reported being unprepared (40% vs. 32%) (Table 1).
- Reported preparedness also varied across ethnic groups, with more Latinos (45%) and Asians/Pacific Islanders (45%) reporting being unprepared than African Americans (35%) and Whites (23%).
- As educational level increased, the percent of respondents who said they felt unprepared decreased. A similar trend was observed for household income.
- Emergency preparedness varied across Service Planning Areas (SPAs). A higher percent of adults in the Metro (45%) and South (47%) SPAs reported they were unprepared than those residing in other SPAs.

Emergency Supplies & Family Emergency Plan

To be prepared for a catastrophic disaster, individuals and families must be capable of remaining self-sufficient for a short period of time, without any outside assistance or resources. This requires that regardless of where and when a disaster strikes, each family must have emergency supplies and a family emergency plan. Emergency supplies include a three to seven-day supply of drinking water and non-perishable food (that does not require refrigeration) for each family member, a battery-powered radio, a flashlight, a first aid kit, and some extra batteries.

When asked about emergency supplies in the 2005 LACHS:

- 74% reported having a three-day supply of food and water
- 74% reported having a battery-powered radio
- 68% reported having a first aid kit
- 93% reported having a flashlight
- 80% reported having extra or spare batteries

Having emergency supplies varied by age, educational level, and household income. A greater percent of older respondents, those with advanced education, and those with higher household incomes reported having emergency supplies. In addition, Whites were more likely to have emergency supplies, followed by African Americans, Asians/Pacific Islanders, and Latinos. Figure 2

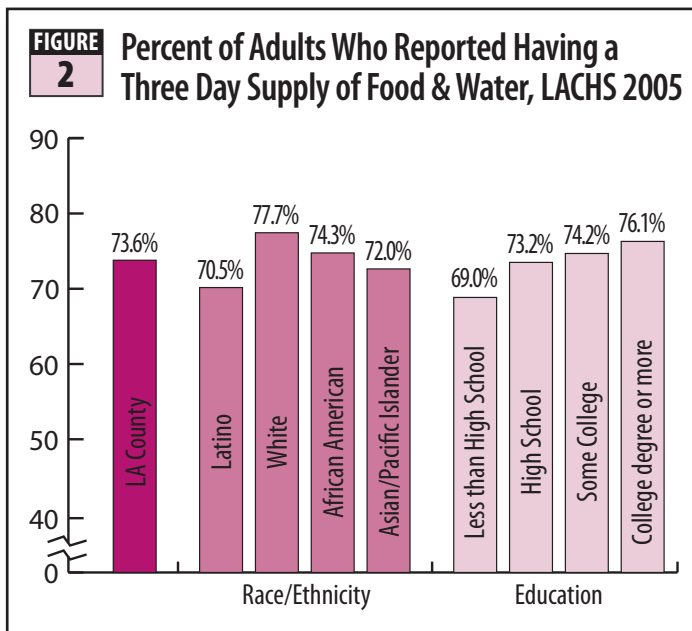
TABLE 1 Percent of Adults Who Reported that They Were Not Prepared to Deal with a Catastrophic Disaster, LACHS 2005

	Percent	Estimated #
Los Angeles County	36.2%	2,600,000
Gender		
Male	31.9%	1,115,000
Female	40.3%	1,485,000
Race/Ethnicity		
Latino	45.2%	1,342,000
White	23.2%	577,000
African American	35.1%	242,000
Asian/Pacific Islander	45.3%	409,000
Age Group		
18-24	37.4%	356,000
25-29	49.9%	353,000
30-39	39.7%	636,000
40-49	35.7%	539,000
50-59	31.2%	327,000
60-64	27.6%	111,000
65 or over	28.8%	278,000
Education		
Less than high school	55.5%	809,000
High School	37.7%	583,000
Some college or trade school	30.5%	552,000
College or post graduate degree	27.5%	644,000
Federal Poverty Level^{\$}		
0-99% FPL	51.5%	761,000
100%-199% FPL	45.4%	773,000
200%-299% FPL	33.4%	419,000
300% or above FPL	23.6%	648,000
Service Planning Area		
Antelope Valley	29.1%	65,000
San Fernando	29.5%	451,000
San Gabriel	35.4%	461,000
Metro	44.8%	405,000
West	30.0%	158,000
South	46.9%	306,000
East	38.4%	358,000
South Bay	35.5%	397,000

^{\$} Based on U.S. Census 2003 Federal Poverty Level (FPL) thresholds which for a family of four (2 adults, 2 dependents) correspond to annual incomes of \$18,700 (100% FPL), \$37,300 (200% FPL) and \$56,500 (300% FPL).

shows the percent of respondents who reported having a 3-day supply of food and water. Similar patterns were observed for all other emergency supplies.

A family emergency plan requires that each member of the family knows a designated place to meet and has a contact telephone number for communicating with each other in the event of a



disaster. Families must designate a meeting place outside their neighborhood for an emergency event that prevents them from returning home, and a local meeting place in the neighborhood in case their home is destroyed during a disaster. Forty-one percent of respondents reported they had a family emergency plan. In general, the percent of adults with an emergency plan increased with age, education, and household income. A lower percent of Asians/Pacific Islanders reported having an emergency plan (32%) compared to Latinos (42%), African Americans (43%), and Whites (43%).

Vulnerable Populations

Vulnerable populations consist of individuals who may not be able to access and use the standard resources offered in disaster preparedness, relief, and recovery. During a catastrophic disaster, those who have functional limitations or who lack adequate financial resources to cope are at increased risk. Vulnerable populations include people with a disability or chronic illness, the elderly, families with children, and individuals who are poor or who rely on public assistance. People who do not speak English are also vulnerable during catastrophic disasters because their language limitations can hinder their access to medical care and public health information.

Table 2 shows the prevalence of various vulnerable populations in LA County. The percent of vulnerable populations varied across SPAs, with South, Metro, and East SPAs having the highest percentages.

Willingness to Cooperate in an Emergency

The 2004 PHRETS asked non-institutionalized adults in LA County about their intention to cooperate with local government instructions during a disaster. Respondents were asked if they would follow instructions to go to the nearest public school because of a terrorist attack (Figure 3).

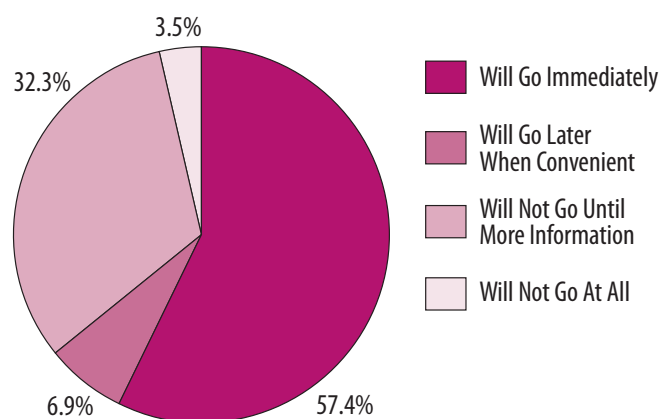
TABLE 2 Prevalence of Vulnerable Populations by SPA, LACHS 2005

	LA County	Antelope Valley	San Fernando	San Gabriel	Metro	West	South	East	South Bay
	%	%	%	%	%	%	%	%	%
Disabled Adults (LACHS 2002-03)	18.7	23.1	18.2	16.8	18.3	16.5	20.6	17.5	22.1
Elderly (≥ 65 years)	13.9	13.5	14.4	15.6	11.6	15.2	9.5	14.2	14.5
Children (< 18) in the Household	44.0	52.0	39.6	45.2	38.7	20.0	59.0	57.3	43.1
Interviewed in non-English Language	28.8	11.1	22.2	29.5	44.5	6.6	44.3	38.5	21.4
Relied on Public Assistance	7.4	9.9	5.4	5.1	9.0	0.3	16.5	8.3	8.0
Incomes < 100% FPL	20.6	19.6	13.6	16.8	28.4	9.6	41.2	25.9	17.5
Diagnosed with Chronic Diseases [†]	46.4	54.1	46.2	45.8	44.9	43.2	49.7	45.5	47.4

● Statistical testing shows that the specified SPA has a significantly higher percentage of vulnerable people than the other SPAs combined.
 ● Statistical testing shows that the specified SPA has a significantly lower percentage of vulnerable people than the other SPAs combined.

[†] Diagnosed with at least one of following conditions: asthma (current), diabetes, hypertension, heart disease, arthritis, chronic respiratory condition, or depression.

FIGURE 3 Reported Response to Local Government Instructions to Go to the Nearest Public School Because of a Terrorist Attack, PHRETS 2004



- Only 57% reported that they would immediately follow local government officials' instructions to go to the nearest public school in the event of a terrorist attack
- 7% reported that they would follow instructions later, when it was convenient for them
- 32% reported that they would not follow instructions until they received more information, whereas 4% reported that they would not follow instructions at all

Respondents with household incomes 300% or above FPL and those with at least some college education were more likely to desire additional information before following instructions, compared with those with lower incomes and less education.

Discussion

While the majority of LA County residents feel somewhat or mostly prepared for an emergency, different population groups in the county vary greatly in their level of preparedness. Data from LACHS and PHRETS demonstrate that age, race/ethnicity, and socioeconomic status—reflected in income and education levels—greatly affect disaster preparedness. Understanding these disparities, and planning to mitigate them, is an essential part of a successful public health emergency response strategy.



on the web



Los Angeles County Department of Public Health Emergency Preparedness and Response provides information to help diverse families and communities prepare for disaster.

<http://www.labt.org>

The California Governor's Office of Emergency Services provides preparedness tips and news updates from Sacramento at <http://www.oes.ca.gov>

Homeland Security believes in being prepared for any possible emergency. To learn more about potential terrorist threats and other emergencies go to

<http://www.ready.gov> or call 1-800-BE-READY (1-800-237-3239)

Disaster Preparedness for Seniors by Seniors. A group of older adults developed this guidebook to help other seniors prepare for and cope with disaster.

<http://www.redcross.org/services/disaster/beprepared/seniors.html>

The American Red Cross of Greater Los Angeles helps the community prepare for and respond to emergencies.

<http://www.redcrossLA.org>

Federal Emergency Management Agency leads the effort to prepare the nation for all hazards and effectively manage federal response and recovery efforts following any national incident.

<http://www.fema.gov>

One way federal, states, and local agencies are currently working to prepare county residents is by educating the public about emergency preparedness. For example, the Department of Public Health's emergency preparedness campaign, "Just Be Ready: Prepare Together," provides outreach and educational materials in 12 languages.

Planning for vulnerable populations is another important aspect of emergency preparedness efforts. These groups are more likely to suffer in the event of a catastrophic disaster, and may require more assistance from governmental agencies and local communities. The prevalence of vulnerable populations varies markedly by SPA in LA County, highlighting the importance of developing localized strategies to address disaster preparedness among those with special needs.

The information provided in this LA Health can help guide community leaders in their local emergency planning, and can be utilized to foster greater public trust and cooperation in the ethnically, socially, and economically diverse environment of LA County. The following are steps individuals, families, and communities can take to start preparing today.

What can individuals & families do?

- Create an emergency plan. For information on how to create an emergency plan, you can download a brochure in 12 languages at <http://www.labt.org/media/buildakit.htm>. In the event of a disaster, it is important to have an out-of-town contact person and telephone number to manage communication between family members, as local phone service may be compromised.³
- Prepare emergency supplies for each member of the family, including food, water, a first aid kit, medications, and copies of important documents. For information on how to prepare emergency supplies, consult <http://www.labt.org/media/buildakit.htm>. Information is available in 12 languages.
- Document your personal health information and medication needs by filling out the Personal Health and Emergency Information Form, which you can find in the brochure, Your Guide to Public Health Emergency Planning, at <http://www.labt.org>.
- Become acquainted with emergency response plans in the workplace and at your children's school, and plan to follow through if an emergency event should occur. Enroll in emergency preparedness training and participate in exercise drills at the workplace, school or community.
- Obtain information on the risk of various hazards that may strike your community. Find out the community's plans for warning and evacuation from your local emergency management office or your local chapter of the American Red Cross.

- Plan ahead of time to care for your pets in the event of disaster. For pet preparedness tips, see <http://www.fema.gov/plan/prepare/animals.shtm>. Make sure your animals can be easily identified in the event of separation by providing them with current tags and licenses, and consider microchipping your pets.

If you are disabled

- Arrange to have someone check on you during an emergency event. Notify your local fire department of your location and specific needs such as a ventilator, elevator, etc.
- Teach those who may assist you in an emergency how to operate equipment that you are dependent upon. Keep a serial number and model list of your equipment.
- If you use a wheelchair, prepare to have more than one wheelchair-accessible exit from your home.
- Prepare to have back up power for life-support devices by talking to your equipment suppliers about back up batteries or generators.
- Consult your doctor about an emergency supply of life sustaining medications. Make extra copies of your medical prescriptions, insurance/benefit cards (health insurance, Medicaid, Supplemental Security Income) and keep them in your emergency kit.

What can communities do?

- Target emergency preparedness education efforts to specific populations such as those with lower incomes or education levels.
- Provide necessary details and logistics in all government communications.
- Include strategies tailored for vulnerable populations with special needs in every emergency response plan.
- Invite religious and other voluntary organizations to participate in emergency preparedness planning and training exercises. It is important to engage the community as an active unit that will facilitate and lessen the burden of the whole community in a catastrophic event.



Los Angeles County
Department of Public Health
313 N Figueroa Street Room 127
Los Angeles, CA 90012
213.240.7785

Presorted
Standard
U.S. Postage
PAID
Los Angeles, CA
Permit No. 33

In this issue:

How Prepared are Los Angeles County Residents for an Emergency?

The Los Angeles County Health Survey is a periodic, population-based telephone survey that collects information on sociodemographic characteristics, health status, health behaviors, and access to health services among adults and children in the county. The most recent survey was conducted in 2005 for the Los Angeles County Department of Health Services by Field Research Corporation and was supported by grants from First 5 LA, the California Department of Health Services, and the Public Health Response and Bioterrorism Preparedness federal grant.

L. A. County Board of Supervisors

Gloria Molina, First District
Yvonne Brathwaite Burke, Second District
Zev Yaroslavsky, Third District
Don Knabe, Fourth District
Michael D. Antonovich, Fifth District

L. A. County Department of Public Health

Jonathan Fielding, MD, MPH
Director and Health Officer

John Schunhoff, PhD
Chief Deputy

Paul Simon, MD, MPH
Director of Chronic Disease and
Injury Prevention program

Office of Health Assessment & Epidemiology

Frank Sorvillo, PhD, Acting Director, Health Assessment and Epidemiology
Susie Baldwin, MD, MPH, Chief, Health Assessment Unit

Health Assessment Unit Staff: Amy S. Lightstone, MPH, MS;
Vichuda Lousuebsakul, DrPH; Yan Cui, MD, PhD; Yajun Du, MS;
Gigi A. Mathew, DrPH; Grace Y. Law, MA; Douglas M. Morales,
MPH

Acknowledgements: Special thanks to Anna Long, PhD, MPH;
Margaret Shih, MD, PhD; Dee Ann Bagwell, MA, MPH; Kathleen
Smith, RN, APRN, MPH; John Whitbread; Joy Blevins, MS, MFT,
MPH; and David Eisenman, MD, MSHS for their helpful review.

For additional information about the L.A. County
Health Survey, visit: www.lapublichealth.org/ha

Suggested Citation: Los Angeles County Department of Public Health, *How Prepared are Los Angeles County Residents for an Emergency?*, LA Health; May 2007.