

**Working Papers
Project on the Public and Biological Security
Harvard School of Public Health**

16.

WEST NILE VIRUS III

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Residents of California and Arizona, the Two States Where More Than Half of This Year's West Nile Virus Cases Have Been Reported, Are Less Likely Than Americans Nationwide to Have Taken Precautions Against Mosquito Bites

Many Americans do not know what DEET is or have health concerns about using it

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BOSTON, MA — A new national study conducted by the Harvard School of Public Health Project on the Public and Biological Security finds that California and Arizona residents are significantly less likely than Americans nationwide to have taken any precautions against mosquito bites. Nearly two-thirds of California (64%) and Arizona (65%) residents report not having taken any precautions since the beginning of June, as compared with 45% of adults nationally (Table 1). More than half of this year's human cases of West Nile virus have been reported in California and Arizona.

In spite of public health campaigns and commercial advertising encouraging the use of DEET-based mosquito repellants, such as the brands Off and Cutter, many Americans do not know what DEET is or have health concerns about using it. Only about half (49%) of Americans—including 41% of California and 47% of Arizona residents—report that they know what DEET is. One in five Americans (20%)—including 16% of Californians and 12% of Arizonans—are concerned that using DEET could be dangerous to their health. The Centers for Disease Control and Prevention (CDC) recommend using mosquito sprays containing DEET.

A majority of Americans report that they have not used a DEET-based mosquito repellant since the beginning of June, when West Nile starts to become prevalent. The proportion is even larger in California and Arizona, where more than three-fourths of residents report that they have not used DEET-based repellants during that same period.

“If public health authorities cannot convince people in these states to start taking more precautions against mosquito bites, we are likely to see an upsurge in cases during the next few months,” said Robert J. Blendon, professor of Health Policy and Political Analysis at the Harvard School of Public Health.

The study's findings were based on interviews with 1,014 Americans nationwide and 1,143 residents of California, Arizona, and Colorado. So far in 2004, 1,309 human cases of illness from West Nile, resulting in 35 deaths nationwide, have been reported (as of September 10, 2004). There have been 392 cases and 12 deaths in California, 338 cases and five deaths in Arizona. Colorado has had the next highest number of reported cases

(195 cases) and two deaths. West Nile is a virus that is mainly transmitted by mosquito bites.

Precautions Against Mosquito Bites in California, Arizona, and Colorado

In the three states where the most human cases of West Nile have been reported this year, residents of high-mosquito areas are about twice as likely as those living in low-mosquito areas (61% to 31%) to have taken precautions against mosquito bites. But many of this year's cases have been found in low-mosquito areas, where significantly fewer people have been taking precautions.

In California and Arizona, only one-fourth or fewer report having taken each of four specific CDC-recommended precautions since June 1. About one in four report having removed standing water from spare tires, gutters, bird baths, kiddie pools, and other places where water collects (24% in California, 26% in Arizona). About one in five report having used a mosquito repellent containing DEET (including the brands Off and Cutter) (19% in California, 20% in Arizona) and having avoided going outdoors at the peak mosquito hours of dawn and dusk (19% in California, 16% in Arizona). One in five Californians (21%) and one in eight Arizonans (12%) report having worn long-sleeve shirts and other protective clothing outdoors to protect against mosquito bites (Table 1).

In 2003, Colorado experienced the largest number of human cases (9,862) and deaths (264) from West Nile, and this year the state has the third highest number of reported human cases. In spite of this, Colorado residents are no more likely than Americans nationally to take precautions. About three in five Colorado residents (58%) report having taken any precautions against mosquito bites since the beginning of June. Two in five (40%) report having used DEET during that period. Three in five (60%) say that they know what DEET is, and about one in four (24%) are concerned that using DEET could be dangerous to their health.

We cannot tell from these results if people are taking these precautions specifically to protect against getting the West Nile virus. In high-mosquito areas, separating general precautions against mosquitoes from those aimed at dealing with a specific mosquito-borne threat is difficult. Many people living in high-mosquito areas, in order to prevent the annoyance of mosquito bites and probably aware of other dangers such as encephalitis, would take precautions in any case.

(For information about preventive measures, go to the CDC website, www.cdc.gov/ncidod/dvbid/westnile/index.htm.)

Attitudes About Spraying Against Mosquitoes

On the sometimes controversial issue of special spraying against mosquitoes in order to control the spread of the West Nile virus, the study found strong support for the practice. Nationwide, large majorities of those who live in areas where there has been spraying at ground level (90%) or from the air (77%) approve of these practices. Even in areas where

there has not been any ground spraying, three-fourths (76%) of Americans said they would favor such spraying to prevent the spread of West Nile if it appeared in their area. In areas where there has not been spraying from the air, support for such spraying is lower, but a majority (58%) would still approve of air spraying for this purpose. The levels of public approval for these practices are similar in the three states where the most cases of West Nile have been reported (Table 2).

Minorities in the Three High-Incidence States

In the three states with the largest number of reported human cases of West Nile, whites (40%), African-Americans (39%), and Latinos (40%) are about equally likely to report having taken precautions against mosquito bites since the beginning of June. However, Latinos (17%) are significantly less likely than whites (26%) to report having used a mosquito repellent containing DEET. Latinos (18%) are also less likely than white (58%) residents of these states to say that they know what DEET is (Table 3).

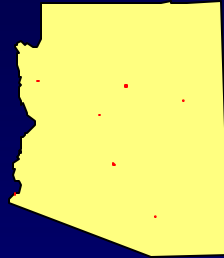
Methodology

This is the sixteenth in a series of studies by the Harvard School of Public Health Project on the Public and Biological Security. The project was funded through the federally-supported Center for Public Health Preparedness at HSPH.

The study, which involved two parallel surveys, was designed and analyzed by researchers at the Harvard School of Public Health. The project director is Robert J. Blendon of the Harvard School of Public Health. The research team also includes John M. Benson, Catherine M. DesRoches, and Kathleen Weldon of the Harvard School of Public Health and Melissa J. Herrmann of ICR/International Communications Research.

Fieldwork for each survey was conducted via telephone for the Project by ICR/International Communications Research of Media (PA) between August 25 and August 29, 2004 (national survey) and between August 25 and August 31, 2004 (three-state survey). The national survey was conducted with a nationally representative sample of 1,014 adults age 18 and over. The three-state survey was conducted with a representative sample of adults in California (845), Arizona (145), and Colorado (153), including 203 Latinos and 100 African-Americans. The margin of error for the total samples in each survey is plus or minus 3 percentage points; for residents of California, plus or minus 3.5 percentage points; for residents of Arizona and Colorado, plus or minus 8 percentage points.

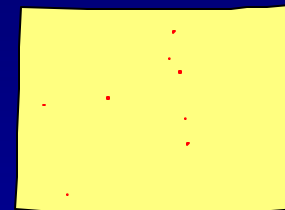
The Three States with Highest Number of Human Cases of West Nile Virus, 2004



2 - Arizona
345 human cases
5 deaths
Taking precautions: 35%



1 - California
392 human cases
12 deaths
Taking precautions: 36%



3 - Colorado
225 human cases
2 deaths
Taking precautions: 58%

Taking precautions nationally: 55%

Table 1
 Precautions Against Mosquito Bites
 Comparisons Between National and Three State Responses

	National	California	Arizona	Colorado
Know what DEET is	49%	41%	47%	60%
And concerned it could be dangerous to your health	20%	16%	12%	24%
Taken any precautions since 6/1	55%	36%	35%	58%
Have not taken any precautions since 6/1	45%	64%	65%	42%
Taken these precautions:				
DEET repellent	40%	19%	20%	40%
Emptied standing water	40%	24%	26%	36%
Avoided activities/areas with mosquitoes	29%	19%	22%	32%
Avoided peak mosquito hours	28%	19%	16%	31%
Wore long-sleeve shirts	27%	21%	12%	38%
Repaired/replaced screens	18%	13%	6%	17%
Wore repellent clothing	4%	3%	2%	6%

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 August 2004

Table 2
 Attitudes about Special Spraying Against Mosquitoes

	National	3 State (CA, AZ, CO)
Approve of ground spraying to control spread of West Nile		
Among those in areas ground sprayed	90%	87%
Among those in areas not ground sprayed	76%	76%
Approve of air spraying to control spread of West Nile		
Among those in areas air sprayed	77%	86%
Among those in areas not air sprayed	58%	55%

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 August 2004

Table 3
 Precautions Against Mosquito Bites and Attitudes about Spraying Against Mosquitoes
 Three States, by Race/Ethnicity

	Three-State (CA, AZ, CO)			
	Total	White	Black	Latino
Know what DEET is	44%	58%	32%	18%
And concerned it could be dangerous to your health	17%	20%	12%	10%
Taken any precautions since 6/1	39%	40%	39%	40%
Taken these precautions:				
DEET repellent	22%	26%	25%	17%
Emptied standing water	26%	27%	27%	26%
Avoided activities/areas with mosquitoes	21%	21%	32%	22%
Avoided peak mosquito hours	20%	19%	22%	25%
Wore long-sleeve shirts	22%	21%	20%	23%
Repaired/replaced screens	13%	11%	15%	17%
Wore repellent clothing	3%	3%	5%	4%

Harvard School of Public Health Project on the Public and Biological Security,
 August 2004

**Harvard School of Public Health
Project on the Public and Biological Security**

**WEST NILE VIRUS SURVEY
National Survey**

**August 25-29, 2004
N=1014 adults nationwide**

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EXCEL Job #D8834
Custom Job #D1324
August 25-29, 2004

I N T E R N A T I O N A L C O M M U N I C A T I O N S R E S E A R C H

WEST NILE SURVEY 3
Harvard School of Public Health
Project on the Public and Biological Security

Topline Results—National

The Harvard School of Public Health West Nile Survey 3 was conducted by telephone from August 25 to 29, 2004 among a nationally representative sample of 1,014 adults age 18 and older. All fieldwork by ICR/International Communications Research of Media, PA. The margin of error is plus or minus 3 percentage points.

A. LEVEL OF CONCERN

WN-1 Do you think mosquito bites can be a serious health threat to you and your immediate family, or don't you think they can be a serious threat?

	Yes, serious threat	No, not a serious threat	Don't know	Refused
8/29/04	71	27	2	--

(Asked of one half total respondents; n=510)

WN-2 I'm going to read you a list of things and ask you how likely it is that each of them will happen to you or someone in your immediate family DURING THE NEXT 12 MONTHS.
First, (READ FIRST ITEM)? Do you think that is very likely to happen, somewhat likely to happen, not very likely, or not at all likely?
How about (READ NEXT ITEM)?

a. Getting the flu

	LIKELY			NOT LIKELY			Don't know	Refused
	Net	Very	Somewhat	Net	Not very	Not at all		
8/29/04	76	33	44	23	13	10	1	--
1/11/04	70	28	42	29	19	10	1	--
7/22/03	66	21	45	34	18	15	1	--
11/12/02	77	30	47	22	13	8	1	--
12/3/01	69	28	41	30	17	13	1	--
10/28/01	73	32	41	25	18	8	1	--

1/11/04 Mad Cow (n=508) 7/22/03 West Nile #2 (n=517); 11/12/02 West Nile #1 (n=500); 12/3/01 Bioterrorism #2 (n=1009); 10/28/01 Bioterrorism 31 (n=1015)

b. Contracting SARS

	LIKELY			NOT LIKELY			Don't know	Refused
	Net	Very	Somewhat	Net	Not very	Not at all		
8/29/04	7	2	5	87	31	56	6	*
1/11/04	8	4	4	90	33	57	3	--
7/22/03	6	2	4	91	29	62	3	--
5/6/03	17	3	13	81	37	44	3	--
4/29/03	14	3	11	79	33	46	7	--
4/15/03	25	5	20	72	42	31	2	--

1/11/04 Mad Cow (n=508); 7/22/03 West Nile #2 (n=517); 5/6/03 SARS #3 (n=509); 4/29/03 SARS #2 (n=506); 4/15/03 SARS #1 (n=503)

c. Contracting smallpox

	LIKELY			NOT LIKELY			Don't know	Refused
	Net	Very	Somewhat	Net	Not very	Not at all		
8/29/04	8	3	5	91	34	57	1	*
7/22/03	4	1	3	95	29	66	1	*
5/6/03	8	3	5	91	40	51	2	--
4/29/03	10	4	6	85	29	56	5	--
4/15/03	13	3	9	86	41	45	2	--
12/8/02	12	3	9	87	33	54	1	--
11/12/02	8	1	7	89	34	56	2	--
5/21/02	8	3	5	90	28	63	2	--
12/3/01	8	2	6	89	27	62	2	--
10/28/01	9	3	6	88	38	50	3	--

7/22/03 West Nile #2 (n=517); 5/6/03 SARS #3 (n=509); 4/29/03 SARS #2 (n=506); 4/15/03 SARS #1 (n=503); 12/8/02 Bioterrorism #4 (n=1006); 11/12/02 West Nile #1 (N=1001); 5/21/02 ER Survey (n=3011); 12/3/01 Bioterrorism #2 (n=1009); 10/28/01 Bioterrorism #1 (n=1015)

d. Getting sick from the West Nile virus

	LIKELY			NOT LIKELY			Don't know	Refused
	NET	Very	Somewhat	NET	Not very	Not at all		
8/29/04	33	4	29	66	39	27	2	--
7/22/03	17	2	15	79	36	43	4	*
5/6/03	23	6	18	72	36	35	5	--
4/29/03	24	5	19	68	29	38	9	--
4/15/03	30	4	25	67	40	27	4	--
12/8/02	25	5	20	73	38	35	2	--
11/12/02	23	6	17	73	39	33	5	*

7/22/03 West Nile #2 (n=517); 5/6/03 SARS #3 (n=509); 4/29/03 SARS #2 (n=506); 4/15/03 SARS #1 (n=503); 12/8/02 Bioterrorism #4 (n=1006); 11/12/02 West Nile #1 (n=1001)

INTERVIEWER READ WEST NILE VIRUS INTRO: Now I'm going to ask you some questions about the West Nile virus, which can cause West Nile fever and other complications.

(Asked of one half total respondents; n=504)

WN-3 Are you concerned that you or someone in your immediate family may get sick from the West Nile virus DURING THE NEXT 3 MONTHS, or aren't you concerned about that?

(Among Half of Total Respondents, asked of those who are concerned that they, or someone is their immediate family may get sick from West Nile Virus)

WN-4 How concerned are you? Are you very concerned, somewhat concerned, or not very concerned?

WN3/WN4 West Nile Concern Combination Table – Next 3 Months

Base = One Half of Total Respondents; n=504

	CONCERN ABOUT WEST NILE VIRUS				Not concerned about West Nile Virus	Don't know	Refused
	NET	Very	Somewhat	Not very			
8/29/04	36	16	18	2	63	*	--

(Among Half of Total Respondents; asked of those who are NOT concerned that they, or someone in their immediate family may get sick from West Nile Virus in the next three months)

WN-5 How about during the next TWELVE months? Are you concerned that you or someone in your immediate family may get sick from the West Nile virus DURING THE NEXT 12 MONTHS, or aren't you concerned about that?

(Among Half of Total Respondents: asked of those who are concerned that they, or someone is their immediate family may get sick from West Nile Virus in the next twelve months, but not next three months)

WN-6 How concerned are you? Are you very concerned, somewhat concerned, or not very concerned?

WN3/WN4/WN5/WN6 West Nile Concern Combination Table

Base = One Half of Total Respondents; n=504

	8/29/04
Concerned next 12 months (NET)	45
Concern about West Nile Virus in next three months (SUBNET)	36
Very Concerned	16
Somewhat Concerned	18
Not very Concerned	2
Concern about West Nile in next 12 months, but not next 3 months (SUBNET)	8
Very Concerned	2
Somewhat Concerned	5
Not very Concerned	1
Not concerned about West Nile Virus in next twelve months	55
Don't know	1
Refused	--

B. KNOWLEDGE AND BELIEFS ABOUT WEST NILE VIRUS

WN-7 To the best of your knowledge, can you contract the West Nile virus from mosquito bites, or is that not a way you can contract the West Nile virus?

	Yes, can contract from mosquito bites	No, not a way to contract	Don't know	Refused
8/29/04	90	4	5	*

WN-8 Of people who get seriously ill from the West Nile virus, about how many do you think die from the disease—almost none, about one in 10, about one in four, or more than half?

	Almost none	About one in 10	About one in four	More than half	Don't know	Refused
8/29/04	20	48	11	9	12	*

WN-9 To the best of your knowledge, has anyone in your state died from the West Nile virus since the beginning of June?

	Yes, people died in my state	No, no one died in my state	Don't know	Refused
8/29/04	31	55	14	--

WN-10 How familiar are you with the word "DEET?" Do you know what DEET is, have you heard of it, but are not sure what it is, or have you never heard of DEET before?

	Know what DEET is	Heard of it, but not sure what it is	Have never heard of DEET	Don't know	Refused
8/29/04	49	19	31	*	--

(Asked of those who have heard of DEET)

WN-11 Are you concerned that using DEET could be dangerous to your health, or aren't you concerned about that?

(Asked of those who have heard of DEET and are concerned that it is dangerous to their health)

WN-12 How concerned are you? Are you very concerned, somewhat concerned, or not very concerned?

WN10/WN11/WN12 DEET Concern Combination Table

Base = Total Respondents

	8/29/04
Familiar with DEET (NET)	68
Concerned about DEET(NET)	20
Very Concerned	6
Somewhat Concerned	12
Not very Concerned	2
Not Concerned about DEET	43
Never heard of DEET	31
Don't know	*
Refused	--

C. PERSONAL PRECAUTIONS

WN-13 During the summer months, how much time do you usually spend outdoors? Most of the day, several hours a day, a few hours, about an hour, or a few minutes or less?

	Most of the day	Several hours a day	A few hours	About an hour	A few minutes or less	Don't know	Refused
8/29/04	17	25	35	14	9	*	--

WN-14 Where you live, are there a lot of mosquitoes around during the summer, or aren't there very many mosquitoes?

	A lot of mosquitoes	Not very many mosquitoes	Don't know	Refused
8/29/04	48	51	1	--
7/22/03	46	51	2	*
11/12/02	52	46	2	*

7/22/03 West Nile #2 (n=1015); 11/12/02 West Nile #1 (n=1001)

WN-15 Since the beginning of June, have you taken any precautions to avoid getting mosquito bites, or not?

	Yes, have taken precautions	No, have not taken precautions	Don't know	Refused
8/29/04	55	45	--	--
7/22/03	46	54	*	--
11/12/02	45	54	1	*

7/22/03 West Nile #2 (n=1015); 11/12/02 West Nile #1 (n=1001)

WN-16 Since the beginning of June, have you done any of the following things to avoid getting mosquito bites?
Have you (INSERT ITEM)?

a. Removed standing water from spare tires, gutters, bird baths, kiddie pools, or other places where water collects

	Yes	No	Don't know	Refused	Didn't take precautions
8/29/04	40	15	--	--	45
7/22/03	31	15	*	*	54
11/12/02	31	14	*	--	55

7/22/03 West Nile #2 (n=1015); 11/12/02 West Nile #1 (n=1001)

b. Replaced or repaired window screens

	Yes	No	Don't know	Refused	Didn't take precautions
8/29/04	18	37	*	--	45
7/22/03	14	31	*	--	54
11/12/02	16	29	*	--	55

7/22/03 West Nile #2 (n=1015); 11/12/02 West Nile #1 (n=1001)

c. Avoided activities or areas that would bring you in contact with mosquitoes

	Yes	No	Don't know	Refused	Didn't take precautions
8/29/04	29	26	*	--	45
7/22/03	26	20	*	--	54
11/12/02	25	20	*	--	55

7/22/03 West Nile #2 (n=1015); 11/12/02 West Nile #1 (n=1001)

d. Avoided going outside during the peak mosquito hours of dawn or dusk

	Yes	No	Don't know	Refused	Didn't take precautions
8/29/04	28	26	*	--	45
7/22/03	28	18	--	--	54
11/12/02	24	21	*	*	55

7/22/03 West Nile #2 (n=1015); 11/12/02 West Nile #1 (n=1001)

e. Worn clothing that was treated with mosquito repellent before you bought it

	Yes	No	Don't know	Refused	Didn't take precautions
8/29/04	4	51	*	--	45

f. Worn long-sleeved shirts or other protective clothing outdoors

	Yes	No	Don't know	Refused	Didn't take precautions
8/29/04	27	28	--	--	45
7/22/03	22	24	--	--	54
11/12/02	24	21	--	*	55

7/22/03 West Nile #2 (n=1015); 11/12/02 West Nile #1 (n=1001)

(Asked of those who have worn long-sleeved shirts or other protective clothing outdoors to avoid getting mosquito bites; n=267)

WN-17 Since the beginning of June, how often have you worn long-sleeve shirts or other protective clothing outdoors? Every time you have been outdoors, most of the time you have been outdoors, or only some of the time?

	Every time	Most of the time	Only some of the time	Don't know	Refused
8/29/04	7	19	74	*	--

WN16f/WN17 Combination Table

Base = Total Respondents

	8/29/04
--	---------

Wore long-sleeve shirt (NET)	27
Every time	2
Most of the time	5
Only some of the time	20
Didn't wear long-sleeve shirt	28
DK/Refused if shirt	--
Did not take precautions against mosquito bites	45

(Asked of those who took precautions against mosquito bites; n=532)

WN-18 Since the beginning of June, have you used a "bug zapper" in your yard, or not?

	Used bug zapper	Did not use bug zapper	Don't know	Refused	Did not take precautions against mosquito bites
8/29/04	9	46	--	--	45

WN-19 Since the beginning of June, have you used any of the following types of mosquito repellants? How about (READ ITEMS)?

a. Off, Cutter, or some other mosquito repellant containing DEET

	Yes	No	Don't know	Refused	Didn't take precautions
8/29/04	40	13	2	--	45
7/22/03	31	14	*	--	54
11/12/02	31	13	1	*	55

7/22/03 West Nile #2 (n=1015); 11/12/02 West Nile #1 (n=1001)

b. Skin-So-Soft or some other mosquito repellant containing citronella

	Yes	No	Don't know	Refused	Didn't take precautions
8/29/04	24	31	1	--	45
7/22/03	21	23	1	--	54
11/12/02	21	23	1	*	55

7/22/03 West Nile #2 (n=1015); 11/12/02 West Nile #1 (n=1001)

c. Some other kind of mosquito repellant

	Yes	No	Don't know	Refused	Didn't take precautions
8/29/04	11	44	*	--	45
7/22/03	9	37	*	--	54
11/12/02	10	34	*	*	55

7/22/03 West Nile #2 (n=1015); 11/12/02 West Nile #1 (n=1001)

(Asked of those who used Off, Cutter, or some other mosquito repellent containing DEET; n=412)

WN-20 Thinking specifically about mosquito repellents containing DEET, such as Off and Cutter...how often have you made sure you were wearing such repellents since the beginning of June—every time you have been outdoors, most of the time, or only some of the time?

	Every time	Most of the time	Only some of the time	Don't know	Refused
8/29/04	10	32	57	1	--

WN15/WN19/WN20 DEET Combination Table

Base = Total Respondents

	8/29/04
Took precautions against mosquito bites (NET)	55
Used Off, Cutter, or some other mosquito repellent containing DEET(NET)	40
Every time	4
Most of the time	13
Only some of the time	23
Did not use Off, Cutter, or some other mosquito repellent containing DEET	13
Did not take precautions against mosquito bites	45
Don't know	--
Refused	--

(Asked of those who take precautions against mosquito bites but not with Off, Cutter, or other DEET products; n=352)

WN-21 People give different reasons why they don't always use mosquito repellents containing DEET, such as Off and Cutter. For each of the following, please tell me if it was a reason why you haven't used this kind of mosquito repellent most of the time you have been outdoors since the beginning of June .

Is (READ ITEM) a reason you haven't used this kind of mosquito repellent?

a. You are concerned it may be bad for your health

	Yes	No	Don't know	Refused
8/29/04	34	66	*	--

b. You don't like the way it feels or smells

	Yes	No	Don't know	Refused
8/29/04	38	61	1	--

c. There are not many mosquitoes in your area

	Yes	No	Don't know	Refused
8/29/04	37	62	1	*

d. You don't spend much time outdoors when there are mosquitoes

	Yes	No	Don't know	Refused
8/29/04	48	51	*	*

e. It's too much of a bother

	Yes	No	Don't know	Refused
8/29/04	28	71	*	*

f. You use another type of mosquito repellent instead

	Yes	No	Don't know	Refused
8/29/04	25	75	*	--

g. It's too expensive

	Yes	No	Don't know	Refused
8/29/04	12	87	1	*

D. ACCESS TO DEET

WN-22 To the best of your knowledge, do you currently have a mosquito repellent containing DEET, such as Off or Cutter, in your household, or not?

	Yes, have a mosquito repellent containing DEET	No, do not have a mosquito repellent containing DEET	Don't know	Refused
8/29/04	58	39	3	--

WN-23 Was there anytime since the beginning of June that you wanted to purchase a mosquito repellent containing DEET, such as Off or Cutter, but were unable to do so?

	Wanted to purchase, was unable to	Wanted to and was able to purchase or did not want to purchase	Don't know	Refused
8/29/04	6	93	2	--

(Asked of those who wanted to purchase DEET product but were unable to)

WN-24 Why were you unable to purchase this kind of mosquito repellent? Was that (because the repellent was not available where you shop), or (because it was too expensive)?

	Not available	Too expensive	Don't know	Refused
8/29/04	38	59	1	1

E. SPRAYING AGAINST MOSQUITOES

WN-25 In the area where you live, has there been any special spraying against mosquitoes to prevent the spread of the West Nile virus, or hasn't there been any special spraying?

	Spraying	No Spraying	Don't know	Refused
8/29/04	25	62	13	--
11/12/02	27	66	7	*

11/12/02 West Nile #1 (n=1001)

(Asked of those who live in an area where there has been special spraying; n=250)

WN-26 Was the spraying done at ground level or from the air or both?

	Ground level	From the air	Both	Don't know	Refused
8/29/04	62	13	13	12	--

(Asked of those who live in an area where there has been special spraying at ground level; n=190)

WN-27 Do you approve or disapprove of this spraying done at ground level?

	Approve	Disapprove	Don't know	Refused
8/29/04	90	7	3	--

(Asked of those who live in an area where there has been special spraying from the air; n=72)

WN-28 Do you approve or disapprove of this spraying done from the air?

	Approve	Disapprove	Don't know	Refused
8/29/04	77	16	4	2

(Asked of those who live in an area where there has been no special spraying at ground level; n=668)

WN-29 What if special spraying at ground level to prevent the spread of West Nile DID happen in your area? Would you approve or disapprove?

	Approve	Disapprove	Don't know	Refused
8/29/04	76	13	10	3

(Asked of those who live in an area where there has been no special spraying from the air; n=786)

WN-30 What if special spraying from the air to prevent the spread of West Nile DID happen in your area? Would you approve or disapprove?

	Approve	Disapprove	Don't know	Refused
8/29/04	58	34	8	*

F. GETTING INFORMATION ABOUT WEST NILE

WN-31 During the past 3 months, have you seen or read any information in the media about precautions to take to avoid getting the West Nile virus, or haven't you seen or read such information?

	Seen or Read Information	Have not seen or Read Information	Don't know	Refused
8/29/04	61	38	1	--

WN-32 During the past 3 months, have you talked with a doctor or other health professional about the prevention or treatment of the West Nile virus, or not?

	Have Talked	Have Not Talked	Don't know	Refused
8/29/04	5	95	*	--

WN-33 During the past 3 months, have you contacted your state or local health department or some other government agency to get information about preventing the spread of the West Nile virus, or not?

	Have Called	Have Not Called	Don't know	Refused
8/29/04	2	97	*	--

G. DEMOGRAPHICS

WN-34 Do you live on a farm or in an agricultural community, or do you live in some other type of community?

	Farm/Agricultural Community	Some other type of community	Don't know	Refused
8/29/04	23	77	*	*
11/12/02	22	78	--	*

11/12/02 West Nile #1 (n=1001)

WN-35 Do you live in a home where a window that is opened during the summer does not have a screen or has a screen that is broken, or do all of these windows have unbroken screens?

	No screen/broken screen	All windows have screens/unbroken screens	Don't know	Refused
8/29/04	10	89	1	*

**Harvard School of Public Health
Project on the Public and Biological Security**

**WEST NILE VIRUS SURVEY
California, Colorado, Arizona**

**August 25-29, 2004
N=1143 adults in California, Colorado, and Arizona**

Research Team:

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I N T E R N A T I O N A L C O M M U N I C A T I O N S R E S E A R C H

WEST NILE SURVEY 3
Harvard School of Public Health
Project on the Public and Biological Security

Topline Results—California, Colorado, Arizona

The Harvard School of Public Health West Nile Survey 3 was conducted by telephone from August 25 to 31, 2004 among a nationally representative sample of 1,143 adults age 18 and older. A total of 845 respondents were interviewed in California, 153 in Colorado and 145 in Arizona. A total of 203 Latinos and 100 African-Americans were interviewed. All fieldwork by ICR/International Communications Research of Media, PA. The margin of error for the total sample is plus or minus 3 percentage points; for California, plus or minus 3.5 percentage points; for Colorado and Arizona, plus or minus 8 percentage points.

A. LEVEL OF CONCERN

WN-1 Do you think mosquito bites can be a serious health threat to you and your immediate family, or don't you think they can be a serious threat?

	Yes, serious threat	No, not a serious threat	Don't know	Refused
Total 3 states	79	18	3	--
CA	78	19	3	--
CO	82	16	2	--
AZ	83	14	3	--

(Asked of one half total respondents; n=574)

WN-2 I'm going to read you a list of things and ask you how likely it is that each of them will happen to you or someone in your immediate family DURING THE NEXT 12 MONTHS. First, (READ FIRST ITEM)? Do you think that is very likely to happen, somewhat likely to happen, not very likely, or not at all likely? How about (READ NEXT ITEM)?

a. Getting the flu

	LIKELY			NOT LIKELY			Don't know	Refused
	Net	Very	Somewhat	Net	Not very	Not at all		
Total 3 states	76	33	43	23	17	6	1	--
CA	78	34	44	22	16	6	*	--
CO (n=72)	81	30	51	18	15	3	1	--
AZ (n=77)	63	27	36	34	25	9	3	--

b. Contracting SARS

	LIKELY			NOT LIKELY			Don't know	Refused
	Net	Very	Somewhat	Net	Not very	Not at all		

Total 3 states	15	4	11	77	35	42	8	*
CA	16	4	13	77	35	41	6	*
CO (n=72)	8	5	3	84	36	49	6	1
AZ (n=77)	12	2	10	72	30	42	16	--

c. Contracting smallpox

	LIKELY			NOT LIKELY			Don't know	Refused
	Net	Very	Somewhat	Net	Not very	Not at all		
Total 3 states	16	7	9	82	29	53	3	--
CA	16	7	9	81	29	51	4	--
CO (n=72)	20	8	13	80	25	55	--	--
AZ (n=77)	11	3	8	89	32	57	--	--

d. Getting sick from the West Nile virus

	LIKELY			NOT LIKELY			Don't know	Refused
	Net	Very	Somewhat	Net	Not very	Not at all		
Total 3 states	42	11	31	55	39	16	2	--
CA	43	11	32	55	39	15	3	--
CO (n=72)	46	14	32	53	38	14	1	--
AZ (n=77)	38	12	25	62	42	20	1	--

INTERVIEWER READ WEST NILE VIRUS INTRO: Now I'm going to ask you some questions about the West Nile virus, which can cause West Nile fever and other complications.

(Asked of one half total respondents; n=569)

WN-3 Are you concerned that you or someone in your immediate family may get sick from the West Nile virus DURING THE NEXT 3 MONTHS, or aren't you concerned about that?

(Among Half of Total Respondents, asked of those who are concerned that they, or someone is their immediate family may get sick from West Nile Virus)

WN-4 How concerned are you? Are you very concerned, somewhat concerned, or not very concerned?

**WN3/WN4 West Nile Concern Combination Table – Next 3 Months
One Half of Total Respondents; n=569**

	CONCERN OF WEST NILE VIRUS				Not concerned of West Nile Virus	Don't know	Refused
	NET	Very	Somewhat	Not very			
Total 3 states	52	17	31	4	46	1	*
CA	52	17	30	4	47	1	*
CO (n=81)	51	17	30	4	46	3	--
AZ (n=68)	58	15	40	4	42	--	--

(Among Half of Total Respondents; asked of those who are NOT concerned that they, or someone in their immediate family may get sick from West Nile Virus in the next three months)

WN-5 How about during the next TWELVE months? Are you concerned that you or someone in your immediate family may get sick from the West Nile virus DURING THE NEXT 12 MONTHS, or aren't you concerned about that?

(Among Half of Total Respondents: asked of those who are concerned that they, or someone in their immediate family may get sick from West Nile Virus in the next twelve months, but not next three months)

WN-6 How concerned are you? Are you very concerned, somewhat concerned, or not very concerned?

**WN3/WN4/WN5/WN6 West Nile Concern Combination Table
One Half of Total Respondents; n=569**

	Total 3 states	CA	CO (n=81)	AZ (n=68)
Concerned next 12 months (NET)	59	59	56	62
Concern of West Nile Virus in next three months(SUBNET)	52	52	51	58
Very Concerned	17	17	17	15
Somewhat Concerned	31	30	30	40
Not very Concerned	4	4	4	4
Concern of West Nile Virus in next twelve months, but not next 3 months (SUBNET)	7	7	4	3
Very Concerned	1	2	--	--
Somewhat Concerned	5	5	4	3
Not very Concerned	*	*	--	--
Not Concerned of West Nile Virus in next twelve months	40	39	42	38
Don't know	1	2	2	--
Refused	--	--	--	--

B. KNOWLEDGE AND BELIEFS ABOUT WEST NILE VIRUS

WN-7 To the best of your knowledge, can you contract the West Nile virus from mosquito bites, or is that not a way you can contract the West Nile virus?

	Yes, can contact from mosquito bites	No, not a way to contract	Don't know	Refused
Total 3 states	91	4	5	--
CA	90	5	5	--
CO	95	2	3	--
AZ	94	2	4	--

WN-8 Of people who get seriously ill from the West Nile virus, about how many do you think die from the disease—almost none, about one in 10, about one in four, or more than half?

	Almost none	About one in 10	About one in four	More than half	Don't know	Refused
Total 3 states	25	42	11	10	12	1
CA	24	41	12	10	13	*
CO	23	52	6	9	8	1
AZ	28	38	14	7	12	1

WN-9 To the best of your knowledge, has anyone in your state died from the West Nile virus since the beginning of June?

	Yes, people died in my state	No, no one died in my state	Don't know	Refused
Total 3 states	64	26	10	*
CA	65	26	9	--
CO	51	31	17	1
AZ	72	19	9	--

WN-10 How familiar are you with the word "DEET?" Do you know what DEET is, have you heard of it, but are not sure what it is, or have you never heard of DEET before?

	Know what DEET is	Heard of it, but not sure what it is	Have never heard of DEET	Don't know	Refused
Total 3 states	44	11	44	*	*
CA	41	10	49	*	*
CO	60	16	24	--	--
AZ	47	15	38	1	--

(Asked of those who have heard of DEET)

WN-11 Are you concerned that using DEET could be dangerous to your health, or aren't you concerned about that?

(Asked of those who have heard of DEET and are concerned that it is dangerous to their health)

WN-12 How concerned are you? Are you very concerned, somewhat concerned, or not very concerned?

WN10/WN11/WN12 DEET Concern Combination Table

Base = Total Respondents

	Total 3 states	CA	CO	AZ
Familiar with DEET (NET)	55	51	76	61
Concerned about DEET (NET)	17	16	24	12
Very Concerned	5	4	9	4
Somewhat Concerned	10	10	13	6
Not very Concerned	2	2	2	2
Not Concerned about DEET	33	29	49	45
Never heard of DEET	44	49	24	38
Don't know	*	*	--	1
Refused	*	*	--	--

C. PERSONAL PRECAUTIONS

WN-13 During the summer months, how much time do you usually spend outdoors? Most of the day, several hours a day, a few hours, about an hour, or a few minutes or less?

	Most of the day	Several hours a day	A few hours	About an hour	A few minutes or less	Don't know	Refused
Total 3 states	21	25	33	14	7	1	--
CA	23	24	31	14	6	1	--
CO	13	30	41	12	5	--	--
AZ	17	24	33	17	9	--	--

WN-14 Where you live, are there a lot of mosquitoes around during the summer, or aren't there very many mosquitoes?

	A lot of mosquitoes	Not very many mosquitoes	Don't know	Refused
Total 3 states	24	74	2	*
CA	24	74	2	*
CO	30	68	1	1
AZ	19	80	1	--

WN-15 Since the beginning of June, have you taken any precautions to avoid getting mosquito bites, or not?

	Yes, have taken precautions	No, have not taken precautions	Don't know	Refused
Total 3 states	39	61	*	*
CA	36	64	*	*
CO	58	42	--	--
AZ	35	65	--	--

WN-16 Since the beginning of June, have you done any of the following things to avoid getting mosquito bites? Have you (INSERT ITEM)?

a. Removed standing water from spare tires, gutters, bird baths, kiddie pools, or other places where water collects

	Yes	No	Don't know	Refused	Didn't take precautions
Total 3 states	26	13	*	*	61
CA	24	12	*	*	64
CO	36	22	--	--	42
AZ	26	9	--	--	65

b. Replaced or repaired window screens

	Yes	No	Don't know	Refused	Didn't take precautions
Total 3 states	13	26	*	--	61
CA	13	23	--	--	64
CO	17	41	--	--	42
AZ	6	29	*	--	65

c. Avoided activities or areas that would bring you in contact with mosquitoes

	Yes	No	Don't know	Refused	Didn't take precautions
Total 3 states	21	17	--	--	61
CA	19	17	--	--	64
CO	32	26	--	--	42
AZ	22	13	--	--	65

d. Avoided going outside during the peak mosquito hours of dawn or dusk

	Yes	No	Don't know	Refused	Didn't take precautions
Total 3 states	20	18	--	--	61
CA	19	17	--	--	64
CO	31	27	--	--	42
AZ	16	19	--	--	65

e. Worn clothing that was treated with mosquito repellent before you bought it

	Yes	No	Don't know	Refused	Didn't take precautions
Total 3 states	3	35	*	--	61
CA	3	33	--	--	64
CO	6	51	1	--	42
AZ	2	33	--	--	65

f. Worn long-sleeved shirts or other protective clothing outdoors

	Yes	No	Don't know	Refused	Didn't take precautions
Total 3 states	22	17	*	*	61
CA	21	15	*	--	64
CO	38	19	--	1	42
AZ	12	24	--	--	65

(Asked of those who have worn long-sleeved shirts or other protective clothing outdoors to avoid getting mosquito bites)

WN-17 Since the beginning of June, how often have you worn long-sleeve shirts or other protective clothing outdoors? Every time you have been outdoors, most of the time you have been outdoors, or only some of the time?

WN16f/WN17 Combination Table

Base = Total Respondents

	Total 3 states	CA	CO	AZ
Wore long-sleeve shirt (NET)	22	21	38	12
Every time	2	2	4	1
Most of the time	7	7	13	3
Only some of the time	12	11	22	7
Didn't wear long-sleeve shirt	17	15	19	24
DK/Refused if shirt	*	*	1	--
Did not take precautions against mosquito bites	61	64	42	65

WN-18 Since the beginning of June, have you used a "bug zapper" in your yard, or not?

	Used bug zapper	Did not use bug zapper	Didn't take precautions against mosquito bites	Don't know	Refused
Total 3 states	4	35	61	*	*
CA	3	35	64	*	*
CO	5	53	42	--	--
AZ	5	30	65	--	--

WN-19 Since the beginning of June, have you used any of the following types of mosquito repellants?
How about (READ ITEMS)?

a. Off, Cutter, or some other mosquito repellent containing DEET

	Yes	No	Don't know	Refused	Didn't take precautions
Total 3 states	22	16	1	*	61
CA	19	16	1	--	64
CO	40	18	--	1	42
AZ	20	15	--	--	65

b. Skin-So-Soft or some other mosquito repellent containing citronella

	Yes	No	Don't know	Refused	Didn't take precautions
Total 3 states	11	26	2	--	61
CA	11	23	2	--	64
CO	15	40	3	--	42
AZ	8	25	2	--	65

c. Some other kind of mosquito repellent

	Yes	No	Don't know	Refused	Didn't take precautions
Total 3 states	6	32	*	--	61
CA	6	30	1	--	64
CO	11	47	--	--	42
AZ	6	29	--	--	65

(Asked of those who used Off, Cutter, or some other mosquito repellent containing DEET)

WN-20 Thinking specifically about mosquito repellants containing DEET, such as Off and Cutter...how often have you made sure you were wearing such repellants since the beginning of June—every time you have been outdoors, most of the time, or only some of the time?

WN15/WN19/WN20 DEET Combination Table
Base = Total Respondents

	Total 3 states	CA	CO	AZ
Took precautions against mosquito bites (NET)	39	36	58	35
Used Off, Cutter, or some other mosquito repellent containing DEET(NET)	22	19	40	20
Every time	2	2	6	1
Most of the time	6	5	12	3
Only some of the time	14	12	22	15
Did not use Off, Cutter, or some other mosquito repellent containing DEET	16	16	18	15
Did not take precautions against mosquito bites	61	64	42	65
Don't know	*	*	--	--
Refused	*	*	--	--

(Asked of those who take precautions against mosquito bites but not with Off, Cutter, or other DEET products; n=358)

WN-21 People give different reasons why they don't always use mosquito repellants containing DEET, such as Off and Cutter. For each of the following, please tell me if it was a reason why you haven't used this kind of mosquito repellent most of the time you have been outdoors since the beginning of June. Is (READ ITEM) a reason you haven't used this kind of mosquito repellent?

a. You are concerned it may be bad for your health

	Yes	No	Don't know	Refused
Total 3 states	36	63	1	--
CA	37	62	1	--
CO (n=65)	38	56	6	--
AZ	Too few cases for analysis.			

b. You don't like the way it feels or smells

	Yes	No	Don't know	Refused
Total 3 states	29	68	3	*
CA	29	64	3	*
CO (n=65)	29	69	2	--
AZ	Too few cases for analysis.			

c. There are not many mosquitoes in your area

	Yes	No	Don't know	Refused
Total 3 states	53	46	1	--
CA	50	48	1	--
CO (n=65)	47	51	1	--
AZ	Too few cases for analysis.			

d. You don't spend much time outdoors when there are mosquitoes

	Yes	No	Don't know	Refused
Total 3 states	54	46	1	--
CA	52	47	1	--
CO (n=65)	62	38	--	--
AZ	Too few cases for analysis.			

e. It's too much of a bother

	Yes	No	Don't know	Refused
Total 3 states	28	71	1	--
CA	30	69	1	--
CO (n=65)	25	73	3	--
AZ	Too few cases for analysis.			

f. You use another type of mosquito repellent instead

	Yes	No	Don't know	Refused
Total 3 states	21	78	1	--
CA	23	76	2	--
CO (n=65)	25	75	--	--
AZ	Too few cases for analysis.			

g. It's too expensive

	Yes	No	Don't know	Refused
Total 3 states	10	86	4	--
CA	11	85	4	--
CO (n=65)	11	86	3	--
AZ	Too few cases for analysis.			

D. ACCESS TO DEET

WN-22 To the best of your knowledge, do you currently have a mosquito repellent containing DEET, such as Off or Cutter, in your household, or not?

	Yes, have a mosquito repellent containing DEET	No, do not have a mosquito repellent containing DEET	Don't know	Refused
Total 3 states	42	54	4	--
CA	40	56	4	--
CO	62	36	2	--
AZ	35	61	4	--

WN-23 Was there anytime since the beginning of June that you wanted to purchase a mosquito repellent containing DEET, such as Off or Cutter, but were unable to do so?

	Yes, wanted to purchase, was unable to	Wanted to and was able to purchase or did not want to purchase	Don't know	Refused
Total 3 states	5	94	2	*
CA	5	93	2	--
CO	2	96	1	1
AZ	6	91	3	--

(Asked of those who wanted to purchase DEET product but were unable to)

WN-24 Why were you unable to purchase this kind of mosquito repellent? Was that (because the repellent was not available where you shop), or (because it was too expensive)?

WN-23/24 Combination Table

	Total 3 states	CA	CO	AZ
Wanted to purchase, was unable to	5	5	2	6
Because not available	2	2	1	2
Because too expensive	2	2	0	0
Don't know why	1	1	1	4
Wanted to purchase and was able to or did not want to purchase	94	93	96	91
Don't know	2	2	1	3
Refused	*	--	1	--

E. SPRAYING AGAINST MOSQUITOES

WN-25 In the area where you live, has there been any special spraying against mosquitoes to prevent the spread of the West Nile virus, or hasn't there been any special spraying?

	Spraying	No Spraying	Don't know	Refused
Total 3 states	17	68	15	*
CA	13	72	16	*
CO	35	47	18	--
AZ	21	70	9	--

(Asked of those who live in an area where there has been special spraying)

WN-26 Was the spraying done at ground level or from the air or both?

	Total 3 states	CA	CO	AZ
Spraying	17	13	35	21
Ground	10	7	20	19
Air	1	1	6	0
Both	3	3	5	*
Don't know	3	2	4	1
No spraying	68	72	47	70
Don't know	15	16	18	9
Refused	*	*	--	--

(Asked of those who live in an area where there has been special spraying at ground level; n=161)

WN-27 Do you approve or disapprove of this spraying done at ground level?

	Approve	Disapprove	Don't know	Refused
Total 3 states	87	10	3	--
CA	91	8	1	--
CO	Too few cases for analysis.			
AZ				

(Asked of those who live in an area where there has been special spraying from the air; n=52)

WN-28 Do you approve or disapprove of this spraying done from the air?

	Approve	Disapprove	Don't know	Refused
Total 3 states	86	12	3	--
CA	Too few cases for analysis.			
CO				
AZ				

(Asked of those who live in an area where there has been no special spraying at ground level; n=785)

WN-29 What if special spraying at ground level to prevent the spread of West Nile DID happen in your area? Would you approve or disapprove?

	Approve	Disapprove	Don't know	Refused
Total 3 states	76	16	8	*
CA	77	15	8	*
CO (n=84)	75	21	5	--
AZ (n=97)	76	17	7	--

(Asked of those who live in an area where there has been no special spraying from the air; n=894)

WN-30 What if special spraying from the air to prevent the spread of West Nile DID happen in your area? Would you approve or disapprove?

	Approve	Disapprove	Don't know	Refused
Total 3 states	55	37	8	*
CA	56	36	8	*
CO	53	38	9	--
AZ	54	40	6	--

F. GETTING INFORMATION ABOUT WEST NILE

WN-31 During the past 3 months, have you seen or read any information in the media about precautions to take to avoid getting the West Nile virus, or haven't you seen or read such information?

	Seen or Read Information	Have not seen or Read Information	Don't know	Refused
Total 3 states	73	26	*	*
CA	71	28	*	*
CO	74	26	--	--
AZ	83	16	1	--

WN-32 During the past 3 months, have you talked with a doctor or other health professional about the prevention or treatment of the West Nile virus, or not?

	Have Talked	Have Not Talked	Don't know	Refused
Total 3 states	5	95	*	--
CA	5	95	--	--
CO	6	94	--	--
AZ	4	95	1	--

WN-33 During the past 3 months, have you contacted your state or local health department or some other government agency to get information about preventing the spread of the West Nile virus, or not?

	Have Called	Have Not Called	Don't know	Refused
Total 3 states	3	96	*	--
CA	3	97	*	--
CO	6	94	--	--
AZ	3	96	1	--

G. DEMOGRAPHICS

WN-34 Do you live on a farm or in an agricultural community, or do you live in some other type of community?

	Farm/Agricultural Community	Some other type of community	Don't know	Refused
Total 3 states	15	84	*	*
CA	15	85	*	*
CO	22	78	--	--
AZ	12	87	--	*

WN-35 Do you live in a home where a window that is opened during the summer does not have a screen or has a screen that is broken, or do all of these windows have unbroken screens?

	No screen/broken screen	All windows have screens/unbroken screens	Don't know	Refused
--	--------------------------------	--	-------------------	----------------

Total 3 states	20	80	--	*
CA	21	78	--	*
CO	18	82	--	--
AZ	15	85	--	--