

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

3.

PUBLIC ATTITUDES ABOUT THE
THREAT OF A SMALLPOX ATTACK

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As Experts Debate the Need for Voluntary Smallpox Vaccination, Three in Five Americans Say They Would Get Vaccinated, Even Though No Smallpox Cases Have Been Reported

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BOSTON, MA — Although not a single case of smallpox has been reported in the United States, three in five Americans (59%) surveyed by the Harvard School of Public Health and Robert Wood Johnson Foundation say they would get vaccinated as a precaution against a bioterrorist attack using smallpox if a vaccine were made available to them. This is the case even though people were told that the vaccination may produce serious side effects in a small number of cases.

If cases of smallpox were reported in their own community, more than three-fourths (81%) of Americans say they would get vaccinated. This includes the 59% who had already said they wanted to get vaccinated in the near future, even without cases having been reported, as well as an additional 22% who became interested in vaccination once local cases were mentioned. One in ten (9%) would not get vaccinated even if an outbreak of smallpox occurred in their community.

These findings, based on interviews with 2,000 Americans nationwide, come at a time when two federal government advisory committees of experts—the Advisory Committee on Immunization Practices and the National Vaccine Advisory Committee—are debating whether or not voluntary smallpox vaccinations should be offered to the public. Also, starting on Thursday, June 6, in New York City and San Francisco, the Centers for Disease Control and Prevention are conducting a series of public forums on the use of the smallpox vaccine.

"The survey results also raise the question of whether or not the country should move ahead with voluntary vaccination of frontline workers, such as doctors, nurses, and emergency personnel," said Robert J. Blendon, professor of Health Policy and Political Analysis at the Harvard School of Public Health. "If there were a bioterrorist attack using smallpox, millions of Americans would want to find health professionals to vaccinate them. If the professionals themselves have not been vaccinated, it could lead to serious delays and public panic."

Level of Public Concern

The substantial public interest today in receiving a smallpox vaccination grows in part from continuing fears about a future bioterrorist attack. Nine months after the September 11th attacks, more than four in ten (43%) report being worried about a future attack using smallpox, down from 53% in November 2001. About half (49%) of women, compared with 36% of men, are currently worried about such an attack. The interest in vaccination may also reflect Americans' familiarity with the smallpox vaccine. Nearly three in five Americans (56%) report having been vaccinated earlier in their lives.

In the near run, the public sees little risk that they or a family member will get smallpox. Only one in twelve Americans (8%) believes that they or someone in their immediate family is likely to contract smallpox during the next 12 months. This compares with 20% who believe they or a family member are likely to be injured in some other type of terrorist attack.

Most Americans (74%) are at least mildly optimistic that they would survive if they contracted smallpox and received immediate medical care. Forty-four percent see it as *very* likely that they would survive, while 30% thought it *somewhat* likely.

Confidence in the Health System and Trust in Public Officials

The public is also somewhat optimistic that adequate planning, preparation, and professional education have taken place in their community in regards to a possible smallpox attack. Most Americans (84%) report confidence that their own doctor can recognize the symptoms of smallpox. Almost half (45%) are *very* confident.

About two-thirds of Americans (70%) believe that their local hospital emergency room is prepared to diagnose and treat people who have smallpox. However, this includes only 23% who think their local ER is *very* prepared. Similarly, two-thirds (66%) are confident that their local health department is prepared to prevent smallpox from spreading if there were an outbreak of the disease, but this includes only 19% who think the local health department is *very* prepared.

If they had symptoms of what they thought might be smallpox, most Americans would seek help from the traditional health care system. The most common place to turn for diagnosis or treatment would be their own doctor or medical clinic (83%), followed by a hospital emergency room (62%) or outpatient department (52%). Very few Americans (27%) would seek assistance from a public health department clinic.

The survey finds that there is no single spokesperson the public most trusts on these issues. When asked, in the event of an outbreak of disease caused by bioterrorism, which of six public officials they trusted most to provide correct information about how to protect themselves and their families from the disease, 43% said a senior scientist from the Centers for Disease Control. No other official was chosen by more than 16%. The other choices were the heads of the Department of Health and Human Services, Office of Homeland Security, and FBI, the U.S. Surgeon General, and the city or state health commissioner.

Asked whom they trusted most to provide correct information about *where to go* if they were exposed to a disease caused by bioterrorism, Americans were nearly evenly split between the CDC (28%) and their city or state health commissioner (26%). Nineteen percent chose the head of the Department of Health and Human Services.

Public Knowledge and Beliefs about Smallpox

Americans' knowledge about smallpox is mixed. More than three-fourths (85%) know that smallpox is contagious. Many believe that smallpox is easily spread. For instance, 90% know that if someone has contracted smallpox and has the symptoms, they should be kept isolated from uninfected people.

However, less than half (43%) of Americans know that if a person has been exposed to smallpox *but does not have symptoms*, getting a vaccination would prevent the person from coming down with the disease. Only about one-third (32%) know that once a person develops symptoms of smallpox, there is no cure.

"This is the central issue for public health education," said Blendon. "Americans need to know that according to experts, if people are exposed to smallpox but do not yet have symptoms, an immediate vaccination will help protect them against the disease. The message is that you should not wait until you get sick. If you have been exposed, go get vaccinated right away, because once the symptoms start, there is no treatment to stop the course of the disease."

Discrimination

A minority of Americans believes there would be some episodes of discrimination if there were an outbreak of smallpox. About three in ten (28%) believe that if they had smallpox, their local hospital is likely to refuse them treatment because they might infect other people at the hospital.

In addition, one in six Americans (17%) believes health professionals would discriminate against elderly people. Americans aged 65 and over are no more likely than others to think the elderly would face discrimination.

Only one in eight Americans (12%) think African-Americans would face discrimination from health professionals in these circumstances. However, nearly three in ten African-Americans (28%) believe such discrimination would occur.

Trends in Americans' response to bioterrorism

Since the Fall of 2001 there have been only a few changes in Americans' behavior in response to bioterrorist threats. Most Americans continue to believe that in the near run they or someone in their immediate family is unlikely to contract anthrax or smallpox. Currently, 10% think they or a family member is likely to contract anthrax during the next 12 months, down slightly from 14% in October 2001 shortly after anthrax-laden mail was first discovered, but nearly identical to the 9% figure in November-December 2001.

The proportion of Americans believing that they or a family member is likely to contract smallpox during the next year has remained virtually unchanged: 9% in October 2001, 8% in November-December 2001, and 8% currently.

Decreases have been seen in the proportion of Americans who:

- are taking mail precautions (from 37% in October 2001 to 24% in May 2002)
- are avoiding public places and consulting a website for information about how to protect themselves in case of bioterrorism (from 12% each in October 2001 to 7% and 8%, respectively, in May 2002).

Of note, there has been a significant rise, from 5% in October 2001 to 15% in May 2002, in the proportion of Americans who report that they or someone in their family has gotten a prescription for or purchased antibiotics in response to concern about bioterrorism. This suggests that some Americans are stockpiling antibiotics in case of a future bioterrorist attack.

Methodology

This study, the third in a series by the Harvard School of Public Health/Robert Wood Johnson Foundation Survey Project on Americans' Response to Bioterrorism, 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 and Catherine M. DesRoches of the Harvard School of Public Health and Melissa J. Herrmann of ICR/International Communications Research. Fieldwork was conducted via telephone for the Project by ICR/International Communications Research of Media (PA) between May 8 and May 21, 2002. The survey was conducted in three waves with a nationally representative sample of 3,011 adults age 18 and over. Some questions were asked in all three waves (margin of error, plus or minus 2.2 percentage points). Most of the questions were asked in two waves (about 2,000 respondents; margin of error, plus or minus 2.7 percentage points). The questions about precautions against bioterrorism and likelihood of surviving diseases were asked in a single wave (1002 respondents; margin of error, plus or minus 3.9 percentage points).

Possible sources of nonsampling error include nonresponse bias, as well as question wording and ordering effects. Nonresponse in telephone surveys produces some known biases in survey-derived estimates because participation tends to vary for different subgroups of the population. To compensate for these known biases, sample data are weighted to the most recent Census data available from the Current Population Survey for gender, age, race, education, as well as number of adults and number of telephone lines in the household. Other techniques, including random-digit dialing, replicate subsamples, callbacks staggered over times of day and days of the week, refusal conversion and systematic respondent selection within households, are used to ensure that the sample is representative.

Harvard School of Public Health is dedicated to advancing the public's health through learning, discovery, and communication. More than 300 faculty members are engaged in teaching and training the 800-plus student body in a broad spectrum of disciplines crucial to the health and well being of individuals and populations around the world. Programs and projects range from the molecular biology of AIDS vaccines to the epidemiology of cancer; from risk analysis to violence prevention; from maternal and children's health to quality of care measurement; from health care management to international health and human rights.

Figure 1

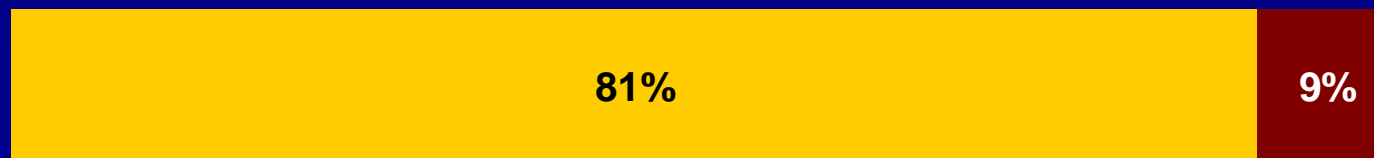
Americans Who Would Get Smallpox Vaccination as Precaution Against Terrorist Attack

Vaccine may produce serious side effects in a small number of cases

If vaccine made available



If cases of smallpox reported in community



■ Would get vaccinated ■ Would not get vaccinated

Source: Harvard School of Public Health/Robert Wood Johnson Foundation Survey Project on Americans' Response to Biological Terrorism, May 2002

Figure 2

Public Knowledge about Smallpox

% giving correct answer

Smallpox is contagious



85%

If person is exposed to smallpox but doesn't have symptoms, getting vaccination will prevent coming down with smallpox



43%

There is no cure for smallpox once a person develops symptoms

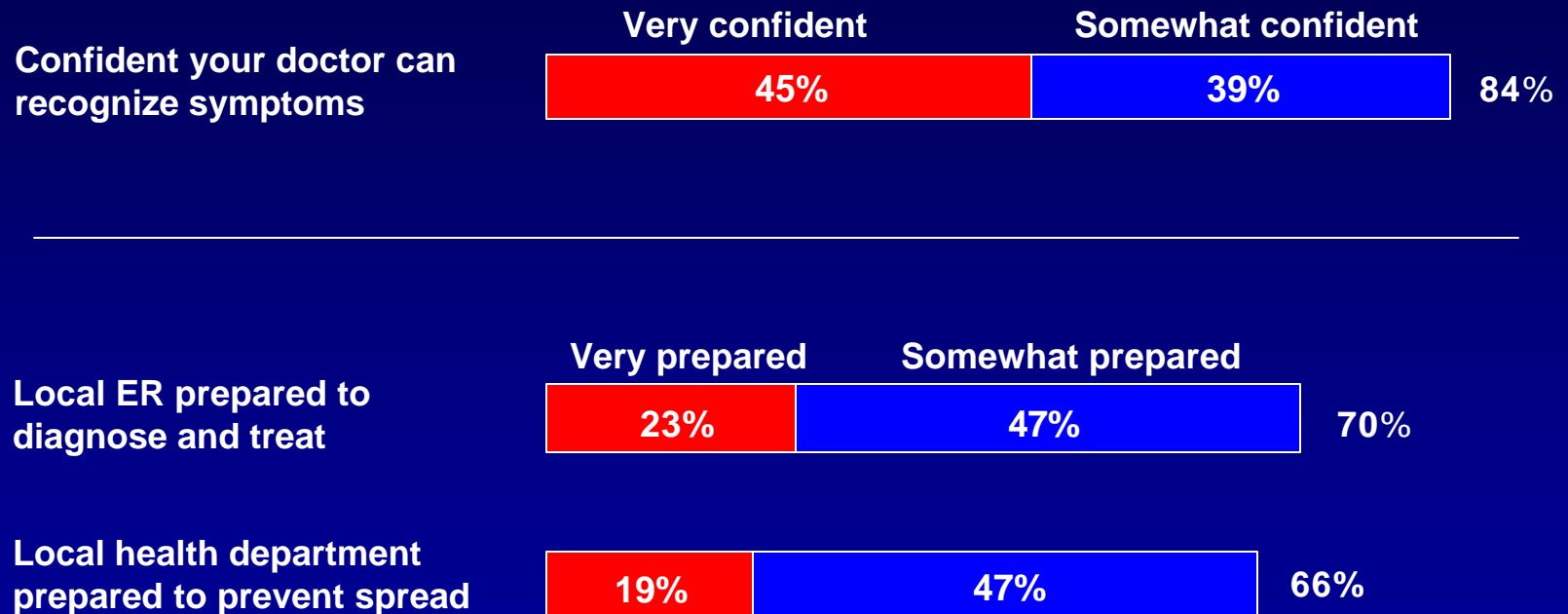


32%

Source: Harvard School of Public Health/Robert Wood Johnson Foundation Survey Project on Americans' Response to Biological Terrorism, May 2002

Figure 3

Public Confidence in the Health System in Case of Smallpox Attack



Source: Harvard School of Public Health/Robert Wood Johnson Foundation Survey Project on Americans' Response to Biological Terrorism, May 2002

**HARVARD SCHOOL OF PUBLIC HEALTH/
ROBERT WOOD JOHNSON FOUNDATION
SURVEY PROJECT ON AMERICANS' RESPONSE TO
BIOLOGICAL TERRORISM**

Study 3: Public Attitudes About the Threat of a Smallpox Attack

May 8 – May 21, 2002

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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

**Harvard School Of Public Health/Robert Wood Johnson Foundation
Survey Project On Americans' Response To Biological Terrorism
PRESS RELEASE Topline Report**

The data for this study was completed by telephone by ICR/International Communications Research of Media, PA from May 8 - 21, 2002. This survey was conducted in three waves with a nationally-representative sample of 3,011 adults 18 years of age and older. The margin of error was +/-3.87 for questions asked in Wave 1 (May 8-12, n=1,002); +/-2.70 for questions asked in Waves 1 and 2 (May 8-14, n=2,002); +/-2.63 for questions asked in Waves 2 and 3 (May 10-21, n=2,009); and +/-2.18 for questions asked in all three waves.

SP-1 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, (ITEM)? Do you think that it is very likely to happen to you or someone in your immediate family, somewhat likely, not very likely, or not at all likely? How about (ITEM)? (Asked in Waves 1-3, May 8-21, 2002, n=3,011)

SP-1a: Getting the Flu	-----Likely-----			-----Not Likely-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	69	29	40	30	19	11	1
Nov-Dec 2001	69	28	41	30	17	13	1
Oct 2001	73	32	41	25	18	8	1

SP-1b: Contracting anthrax	-----Likely-----			-----Not Likely-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	10	2	8	87	31	57	3
Nov-Dec 2001	9	3	6	88	34	54	3
Oct 2001	14	4	10	82	43	39	4

SP-1c: Contracting smallpox	-----Likely-----			-----Not Likely-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	8	3	5	90	28	63	2
Nov-Dec 2001	8	2	6	89	27	62	2
Oct 2001	9	3	6	88	38	50	3

SP-1d: Getting injured by some other terrorist act	-----Likely-----			-----Not Likely-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	20	5	15	76	36	41	4
Nov-Dec 2001	18	5	13	78	36	42	4

SP-2A. How worried are you about the possibility that terrorists may use smallpox in attacks in the future? Would you say you are very worried, somewhat worried, not too worried, or not worried at all?

(Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	-----Worried-----			-----Not Worried-----			Don't know
	Net	Very	Somewhat	Net	Not too	Not at all	
May 2002	43	8	35	56	31	25	1
AP 11/9-13/01	53	11	42	47	26	21	1

SP-3. In response to concerns about bioterrorism, have you or has someone in your household done any of the following things during the past month? Have you (ITEM)?
(Asked in Wave 1, May 8-12, 2002, n=1,002)

SP-3a: Consulted a website for information about how to protect yourself	Yes	No	Don't know
May 2002	8	92	*
Nov-Dec 2001	11	89	*
Oct 2001	12	88	*

SP-3b: Maintained emergency supplies of food, water, or clothing	Yes	No	Don't know
May 2002	25	75	*
Nov-Dec 2001	24	76	*
Oct 2001	25	75	*

SP-3c: Avoided public places	Yes	No	Don't know
May 2002	7	93	*
Nov-Dec 2001	11	89	*
Oct 2001	12	87	*

SP-3d: Talked with your doctor about health issues related to bioterrorism	Yes	No	Don't know
May 2002	3	96	*
Nov-Dec 2001	5	95	*
Oct 2001	6	94	*

SP-3e: Consulted a health professional or counselor about your fears or anxieties related to bioterrorism	Yes	No	Don't know
May 2002	2	98	*
Nov-Dec 2001	3	97	*

SP-3f: Gotten a prescription for or purchased antibiotics	Yes	No	Don't know
May 2002	15	84	*
Nov-Dec 2001	4	96	*
Oct 2001	5	95	*

SP-3g: Taken precautions when opening mail antibiotics	Yes	No	Don't know
May 2002	24	76	*
Oct 2001	37	62	*

NOTE: The phrase "...during the past month" appeared only in May 2002. It was added to make the May 2002 results more comparable to the Fall 2001 findings, which were taken 3-7 weeks after the first reports of bioterrorism, as a measure of recent behavior.

SP-4. If you were to contract each of the following and received immediate medical care, how likely do you think it is that you would survive? First (ITEM)? Do you think it's very likely, somewhat likely, not very likely, or not at all likely that you would survive? How about (ITEM)?
(Asked in Wave 1, May 8-12, 2002, n=1,002)

SP-4a: The flu	-----Likely-----			-----Not Likely-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	97	88	9	3	1	1	1
Nov-Dec 2001	96	90	6	3	2	1	1

SP-4b: Smallpox	-----Likely-----			-----Not Likely-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	74	44	30	18	9	8	8
Nov-Dec 2001	70	44	26	19	11	9	11

SP-4c: The inhaled form of anthrax	-----Likely-----			-----Not Likely-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	57	22	35	34	19	15	9
Nov-Dec 2001	57	25	32	35	19	15	8

SP-4d: The skin form of anthrax	-----Likely-----			-----Not Likely-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	76	45	31	17	8	8	7
Nov-Dec 2001	81	55	26	12	7	5	7

SP- 5A. To the best of your knowledge, is smallpox a disease that is contagious, meaning that it can be passed from one person to another, or is it not contagious?
(Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	Contagious	Not contagious	Don't Know
May 2002	85	7	8

SP-5B. To the best of your knowledge, if a person has been exposed to smallpox but doesn't have symptoms, would getting a vaccination prevent the person from coming down with the disease, or wouldn't a vaccination prevent it?
(Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	Vaccination prevent the disease	Vaccination wouldn't prevent the disease	Don't Know
May 2002	43	34	23

SP-5C. To the best of your knowledge, is there a cure for smallpox once a person develops symptoms, such as a high fever and rash, or isn't there a cure once the person has the symptoms?
(Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	Is a cure	Is no cure	Don't Know
May 2002	40	32	29

SP-7. As you may know, a vaccine for smallpox exists, but it may produce serious side effects in a small number of cases. If such a vaccine were made available to you, would you go get vaccinated as a precaution against a terrorist attack using smallpox, or wouldn't you get such a vaccination?
(Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	Would get a vaccination	Would not get a vaccination	Don't Know
May 2002	59	33	7

SP-8. (Asked of those who said "no" to SP-7) What if cases of smallpox were reported in your community? Would you go get a smallpox vaccination, or wouldn't you get such a vaccination?
(Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

SP-7/8 Combination Table

	May 2002
Would get vaccination	81
Yes if available	59
Yes, if smallpox in community	22
Not even if smallpox in community	9
Don't know	10

- SP-9. In the event of an outbreak of disease caused by bioterrorism, which ONE of the following people would you trust THE MOST to provide the correct information about how to protect yourself and your family from the disease? (ITEMS)
(Asked in Waves 1 & 2, May 8-14, 2002, n=2,002)

	May 2002
A senior scientist from the CDC, or Centers for Disease Control	43
The head of the FBI	3
The head of the Office of Homeland Security	4
The U.S. Surgeon General	13
The head of the Department of Health and Human Services	16
Your city or state health commissioner	9
Would not trust any	7
Don't know	6

- SP-10. And which ONE of these people would you trust THE MOST to provide the correct information about where to go if you thought you were exposed to a disease caused by bioterrorism? (READ ITEMS)
(Asked in Waves 1 & 2, May 8-14, 2002, n=2,002)

	May 2002
A senior scientist from the CDC, or Centers for Disease Control	28
The head of the FBI	3
The head of the Office of Homeland Security	5
The U.S. Surgeon General	9
The head of the Department of Health and Human Services	19
Your city or state health commissioner	26
Would not trust any	4
Don't know	5

- SP-11. If you had symptoms of what you thought might be smallpox, where would you go first for diagnosis or treatment? Would you go to (READ ITEM) or somewhere else?
(Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

(Percent who would go to...)	May 2002
Your own doctor or medical clinic	83
A hospital emergency room	62
A hospital outpatient department	52
A public health department clinic	27

- SP-12. If you had smallpox and went to your local hospital, how likely do you think it is that they would refuse to treat you because you might infect other people at the hospital? Do you think it is very likely, somewhat likely, not very likely, or not at all likely that they would refuse to treat you? (Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	-----Likely-----			-----Not Likely-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	28	11	17	65	31	34	7

- SP-13. How confident are you that your doctor can recognize the symptoms of smallpox? Are you very confident, somewhat confident, not very confident, or not at all confident? (Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	-----Confident-----			-----Not Confident-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	84	45	39	13	9	4	3

- SP-14. How prepared do you think your local hospital emergency room is to diagnose and treat people who have smallpox? Very prepared, somewhat prepared, not very prepared, or not at all prepared? (Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	-----Prepared-----			-----Not Prepared-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	70	23	47	22	16	7	8

- SP-15. If there were an outbreak of smallpox, how prepared do you think your local health department would be to prevent smallpox from spreading? Very prepared, somewhat prepared, not very prepared, or not at all prepared? (Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	-----Prepared-----			-----Not Prepared-----			Don't know
	Net	Very	Somewhat	Net	Not very	Not at all	
May 2002	66	19	47	27	20	7	7

- SP-17. If somebody has contracted smallpox and has symptoms such as a high fever and rash, should that person be kept isolated from uninfected people, or should they be allowed to go about their normal lives? (Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	Kept isolated	Allowed to go about their normal lives	Don't know
May 2002	90	5	5

SP-18. If there were an outbreak of smallpox, do you think health professionals would discriminate against elderly people, or would they be treated like everyone else?
 (Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	Professionals would discriminate against the elderly	Elderly would be treated like everyone else	Don't know
May 2002	17	77	6

SP-19. If there were an outbreak of smallpox, do you think health professionals would discriminate against blacks or African-Americans, or would they be treated like everyone else?
 (Asked in Waves 1-3, May 8-21, 2002, n=3,011)

	Professionals would discriminate against African-Americans	African-Americans would be treated like everyone else	Don't know
May 2002	12	85	4

SP-20. To the best of your knowledge, have you ever been vaccinated for smallpox, or not?
 (Asked in Waves 2 & 3, May 10-21, 2002, n=2,009)

	Have been vaccinated	Have not been vaccinated	Don't know
May 2002	56	31	13