

## National Ambulatory Medical Care Survey: Terrorism Preparedness Among Office-Based Physicians, United States, 2003–2004

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### Abstract

**Objectives**—This investigation describes terrorism preparedness among U.S. office-based physicians and their staffs in identification and diagnosis of terrorism-related conditions, training methods and sources, and assistance with diagnosis and reporting.

**Methods**—The National Ambulatory Medical Care Survey (NAMCS) is an annual national probability survey of approximately 3,000 U.S. nonfederal, office-based physicians. Terrorism preparedness items were added in 2003 and 2004.

**Results**—About 40 percent of physicians or their staffs received training for anthrax or smallpox, but less than one-third received training for any of the other exposures. About 42.2 percent of physicians, 13.5 percent of nurses, and 9.4 percent of physician assistants and nurse practitioners received training in at least one exposure. Approximately 56.2 percent of physicians indicated that they would contact state or local public health officials for diagnostic assistance more frequently than federal agencies and other sources. About 67.1 percent of physicians indicated that they would report a suspected terrorism-related condition to the state or local health department, 50.9 percent to the Centers for Disease Control and Prevention (CDC), 27.5 percent to the local hospital, and 1.8 percent to a local elected official's office. Approximately 78.8 percent of physicians had contact information for the local health department readily available. About 53.7 percent had reviewed the diseases reportable to health departments since September 2001, 11.3 percent had reviewed them before that month, and 35 percent had never reviewed them.

**Keywords:** bioterrorism • medical education • preparedness • ambulatory care

### Introduction

In response to the terrorism incidents of September 2001, the Office of the Assistant Secretary for Planning and Evaluation (OASPE), Department of Health and Human Services, requested that the National Center for Health Statistics survey a nationally representative sample of U.S. physicians' offices on their preparedness for treating patients in the aftermath of terrorist attacks. OASPE provided funding to add several relevant questions to the 2003 and 2004 NAMCS. Information about strengths and limitations of terrorism preparedness in physicians' offices is crucial for planning how terrorism preparedness funding may be used to improve the domestic defensive posture.

### Methods

NAMCS is an annual survey of U.S. nonfederal, office-based physicians, excluding anesthesiologists, radiologists, and pathologists. The survey reports on trends in utilization within the physicians' outpatient practices. A multistage survey design is used, with the frame constructed from 112 geographic primary sampling units and physician practices within those



units. A sample of 3,000 physicians per year was selected in both 2003 and 2004 from the masterfiles of the American Medical Association and the American Osteopathic Association. The data were weighted according to the inverse probability of selection, with an adjustment for nonresponse. Therefore, estimates are considered representative of similar office-based practices across the entire Nation. Of 2,007 in-scope physicians sampled in 2003, 1,114 responded to the induction interview. Of 1,961 in-scope physicians sampled in 2004, 1,121 responded. The total response rate for both years was 56.3 percent, representing about 311,000 physicians per year nationwide. Descriptive analyses were performed using SUDAAN 9.0.1 software, with significant differences among frequencies defined as nonoverlapping 95 percent confidence intervals (1).

Terrorism preparedness items were added to the 2003 and 2004 NAMCS as part of the physician induction interview (see the description of the items below). Data were collected by U.S. Census Bureau field representatives by means of face-to-face interviews with the physicians. Additional information on data collection and response to the 2003 through 2004 NAMCS has been published (2). Excerpts from the questionnaire related to terrorism preparedness can be found in the “Technical Notes.”

Physicians (allopathic or osteopathic) were asked whether they or their staff had received special training since September 2001 in the identification and diagnosis of several terrorism-related diseases or conditions. Staff included the physicians as well as physician assistants, nurse practitioners, registered and licensed practical nurses, and other staff employed by physicians. The diseases or conditions included smallpox, anthrax, plague, botulism, tularemia, viral hemorrhagic fever, viral encephalitis, and chemical and radiological exposures.

Physicians were also asked questions concerning the following areas:

- Where they would turn for assistance in diagnosing patients with unusual

symptoms suggesting a terrorist-related condition.

- Whom they would contact to report a terrorism-related disease or condition.
- If they had contact information for the local health department readily available in their offices or primary practice sites.
- Whether they had reviewed the list of reportable diseases in their state or local jurisdictions since September 2001.

## Results

### Training

Training was received for anthrax by 40.7 percent of either physicians or their staffs, and by 40.2 percent for smallpox—frequencies that were significantly larger than those of training for other exposures. Training was received for chemical exposures by 32.6 percent of either physicians or their staffs, for viral encephalitis by 28.9 percent, for botulism by 28.5 percent, for radiological exposures by 28.5 percent, and for plague by 27.8 percent. Training was received for viral hemorrhagic fever by 25.4 percent of physicians or their staffs and for tularemia by 25 percent—frequencies that were significantly less than those of

training received for anthrax, smallpox, and chemical exposures (Figure 1).

A breakdown of training frequencies for each of the nine exposures by individual clinician types is presented in Table 1. Overall, 42.2 percent of physicians received training in at least one exposure (2), but only 13.5 percent of nurses and 9.4 percent of physician assistants and nurse practitioners received such training. The percentages for all three groups were significantly different from one another (Figure 2). A breakdown of these percentages by practice characteristics is presented in Table 2.

Among clinicians who received any training, physicians were trained for a mean of 6.0 of the nine exposures, physician assistants and nurse practitioners for 5.3 of the exposures, and nurses for 4.8 of the exposures. There were no significant differences by practice characteristics, with the exception of some regional variations for physicians, physician assistants, and nurse practitioners (Table 3).

### Diagnostic assistance

Diagnostic assistance would be sought from state or local public health officials by 56.2 percent of physicians,

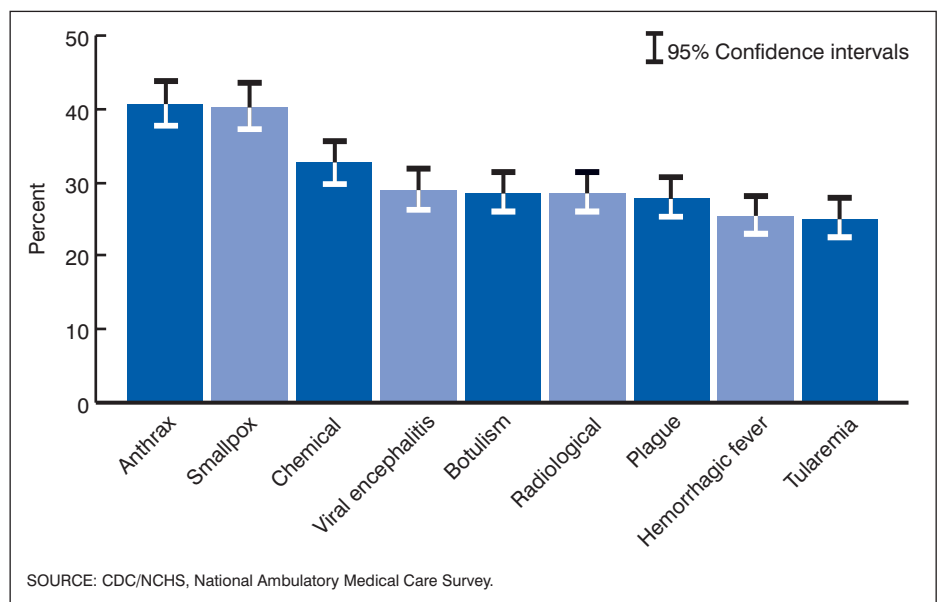
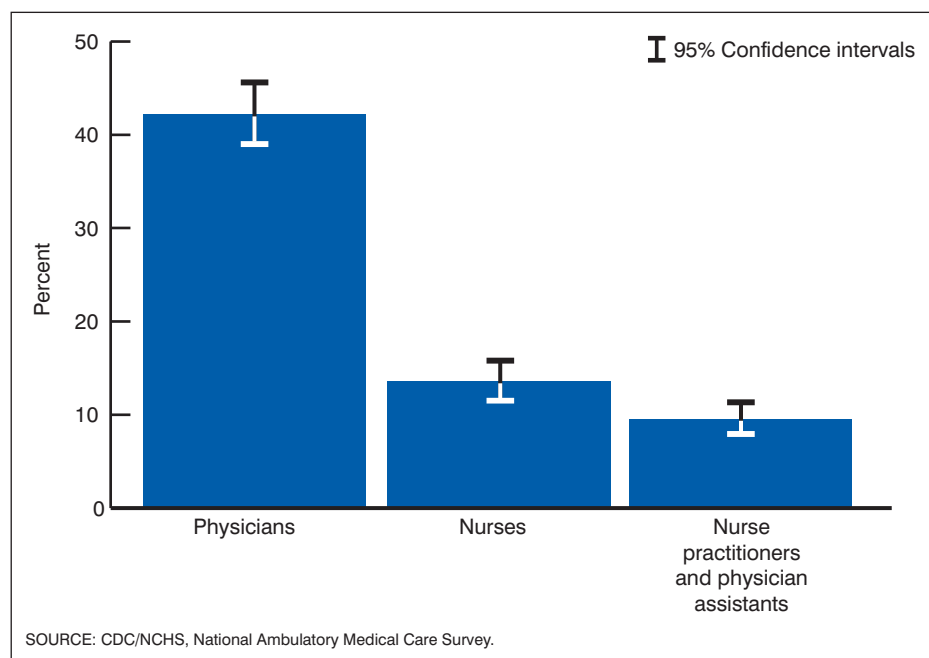


Figure 1. Percentage of physicians or their staffs trained in the identification and diagnosis of terrorism-related exposures: United States, 2003–2004



**Figure 2. Percentage of physician office staff trained in the identification and diagnosis of at least one terrorism-related exposure: United States, 2003–2004**

which is significantly more frequent than diagnostic assistance sought from CDC or other federal agencies (49.0 percent) and colleagues or consultants (44.6 percent). Furthermore, assistance in diagnosing symptoms potentially related to terrorism would be sought significantly more frequently from state or local health officials, federal agencies, or colleagues than from the Internet (16.3 percent), medical associations (16.0 percent), medical journals (13.5 percent), medical textbooks (13.2 percent), or other sources (14.6 percent) (Table 4).

### Reporting practices

The leading agencies to which physicians indicated that they would report a suspected terrorism-related condition included the state or local health department (67.1 percent), CDC (50.9 percent), and the local hospital (27.5 percent). These frequencies were significantly different from one another and from less frequently mentioned agencies (Table 5).

Contact information for the local health department was readily available (e.g., posted, speed dial, or rolodex) in 78.8 percent of physicians' offices. Primary care physicians had this contact

information available more frequently than medical or surgical specialists. Physicians with 3 to 10 managed care contracts had contact information more frequently than those with no managed care contracts (Table 6).

The list of diseases reportable to health departments had been reviewed by 53.7 percent of physicians since September 2001 and by 11.3 percent before September 2001, whereas 35 percent had never reviewed the list (this includes the 5 percent who did not respond to the question). The information had been reviewed since September 2001 by primary care physicians more frequently than by medical and surgical specialists, by rural physicians more frequently than by urban physicians, and by physicians with 3 to 10 managed care contracts more frequently than by those with none. Physicians practicing in the South had reviewed the list of reportable diseases prior to September 2001 more frequently than physicians practicing in the West, but there were no regional differences in physicians having reviewed this information since September 2001 (Table 7).

## Discussion

The frequencies of training of medical office physicians and their staffs in the management of terrorism-related diseases are quite low. Although this report shows that physicians who had received any bioterrorism training at all had covered two-thirds of the exposures, only about 4 of every 10 physicians were in that category. A previous report using NAMCS data presented a more specific analysis with respect to the training of physicians themselves and the characteristics that predict the likelihood that this training occurs. When all physicians in the sample were taken into account, they had received training in only about three of the nine exposures (3). In comparison to the NAMCS office-based physicians, hospital-based clinicians had received terrorism response training more frequently. In the 2003 through 2004 Bioterrorism Supplements to the National Hospital Ambulatory Medical Care Survey, about 88 percent of nurses, 75 percent of staff physicians, and 47 percent of physician assistants and nurse practitioners working in hospital outpatient departments and emergency departments had received training in at least 1 of 10 terrorism-related biological, chemical, or radiological diseases or conditions (4).

All of these diseases are rare in office practice. There were three total U.S. cases of plague in two states reported to CDC in 2004, attributable to contact with fleas or rabbits (5). As of August 25, 2006, there were 13 plague cases from four states reported in 2006, caused by contact with rabbits, rodents, dogs, and fleas. Prophylactic antibiotics were administered to at least 58 people who had contact with the patients. These cases compare with a median of seven plague cases per year reported to CDC between 1990 and 2005 (6). There were 134 cases of tularemia reported to CDC in 2004 from contact with arthropods, mammals, and lab cultures, and 133 total cases of botulism were reported, including those classified as infant, food borne, wound, and toxin injection sources. No cases of anthrax were reported, and only one case of

laboratory exposure to anthrax spores was reported (5).

The Health Resources and Services Administration initiated the Bioterrorism Training and Curriculum Development Program in 2003, awarding \$22.3 million to 19 academic institutions to provide bioterrorism continuing education for health professionals and \$4.2 million for health professional school curriculum development (7). However, funding levels have fallen since 2005, and the budget estimate for this program in fiscal year 2007 is about \$12.4 million (8). A large gap exists between training for physicians and training for the other clinicians working in their offices. Because nurse practitioners and physician assistants see patients independently, with only later review by their collaborating or supervising physicians, the gap between these clinicians and the physicians is of concern. However, federal funding for bioterrorism training is not limited to physicians. The Bioterrorism Training and Curriculum Development Program reported training 26,004 nurses, 14,789 physicians, 2,737 nurse practitioners, and 1,113 physician assistants in fiscal year 2005 (7).

Diagnostic assistance tends to be requested from appropriate public health sources. Physicians are also likely to report these diseases to appropriate agencies, such as the health department or CDC. Of note is the small percentage of physicians who would report bioterrorism-related diseases to sources not usually capable of dealing with these reports, particularly the local medical association or local elected officials.

## References

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**Table 1. Percentage of office-based physicians, physician assistants and nurse practitioners, and nurses trained in the identification and diagnosis of selected terrorism-related exposures: United States, 2003–2004**

| Exposures                        | Physicians |                 | PA <sup>1</sup> and NP <sup>2</sup> |     | Nurses  |     |
|----------------------------------|------------|-----------------|-------------------------------------|-----|---------|-----|
|                                  | Percent    | SE <sup>3</sup> | Percent                             | SE  | Percent | SE  |
| Anthrax . . . . .                | 38.3       | 1.6             | 8.0                                 | 0.8 | 10.6    | 1.0 |
| Smallpox . . . . .               | 38.1       | 1.6             | 7.7                                 | 0.8 | 11.3    | 1.1 |
| Chemical . . . . .               | 29.8       | 1.4             | 6.4                                 | 0.8 | 8.7     | 0.9 |
| Viral encephalitis . . . . .     | 26.2       | 1.3             | 4.8                                 | 0.7 | 6.3     | 0.7 |
| Botulism . . . . .               | 26.0       | 1.3             | 4.9                                 | 0.7 | 6.0     | 0.8 |
| Radiological . . . . .           | 25.9       | 1.3             | 5.3                                 | 0.7 | 6.7     | 0.8 |
| Plague . . . . .                 | 25.4       | 1.3             | 4.6                                 | 0.7 | 5.4     | 0.7 |
| Viral hemorrhagic fever. . . . . | 22.7       | 1.2             | 4.4                                 | 0.6 | 4.9     | 0.7 |
| Tularemia . . . . .              | 22.4       | 1.3             | 3.9                                 | 0.6 | 5.0     | 0.7 |

<sup>1</sup>PA is physician assistant.<sup>2</sup>NP is nurse practitioner.<sup>3</sup>SE is standard error.

NOTES: Physician estimates based on unweighted n=2,235, corresponding to 311,170 physicians per year. PA and NP estimates based on unweighted n=1,990, corresponding to 276,147 office-based physicians with physician assistants or nurse practitioners per year. Nurse estimates based on unweighted n=2,056, corresponding to 284,730 office-based physicians with nurses per year.

**Table 2. Number and percentage of office-based physicians, physician assistants and nurse practitioners, and nurses trained in the identification and diagnosis of at least one terrorism-related exposure, by selected practice characteristics: United States, 2003–2004**

| Exposures                       | Physicians     |                      |                 | PA <sup>1</sup> and NP <sup>2</sup> |         |     | Nurses  |         |     |
|---------------------------------|----------------|----------------------|-----------------|-------------------------------------|---------|-----|---------|---------|-----|
|                                 | N <sup>3</sup> | Percent <sup>4</sup> | SE <sup>5</sup> | N                                   | Percent | SE  | N       | Percent | SE  |
| All physicians . . . . .        | 311,200        | 42.2                 | 1.7             | 276,100                             | 9.4     | 0.9 | 284,700 | 13.5    | 1.1 |
| Specialty                       |                |                      |                 |                                     |         |     |         |         |     |
| Primary care . . . . .          | 153,700        | 49.5                 | 2.2             | 133,700                             | 13.4    | 1.5 | 138,300 | 17.9    | 1.7 |
| Surgical . . . . .              | 84,500         | 31.9                 | 2.1             | 76,800                              | 5.6     | 1.1 | 78,800  | 9.2     | 1.3 |
| Medical . . . . .               | 73,000         | 38.8                 | 3.0             | 65,600                              | 5.5     | 1.2 | 67,600  | 9.2     | 1.8 |
| Metropolitan statistical area   |                |                      |                 |                                     |         |     |         |         |     |
| Urban . . . . .                 | 275,000        | 41.4                 | 1.7             | 245,500                             | 9.0     | 0.9 | 251,500 | 11.9    | 1.2 |
| Rural . . . . .                 | 36,200         | 48.6                 | 5.2             | 30,600                              | 12.2    | 2.7 | 33,300  | 25.1    | 3.3 |
| Region                          |                |                      |                 |                                     |         |     |         |         |     |
| Northeast . . . . .             | 66,600         | 48.6                 | 3.0             | 58,600                              | 10.3    | 2.0 | 59,900  | 10.2    | 1.7 |
| Midwest . . . . .               | 69,400         | 41.3                 | 3.9             | 61,200                              | 9.6     | 1.9 | 64,300  | 16.4    | 2.2 |
| South . . . . .                 | 105,000        | 39.3                 | 3.1             | 92,800                              | 8.6     | 1.4 | 95,600  | 15.1    | 2.2 |
| West . . . . .                  | 70,200         | 41.4                 | 2.9             | 63,600                              | 9.5     | 1.9 | 64,900  | 11.2    | 2.5 |
| Managed care contracts          |                |                      |                 |                                     |         |     |         |         |     |
| None . . . . .                  | 42,700         | 30.5                 | 3.6             | 39,000                              | *2.9    | 1.4 | 39,300  | 4.9     | 1.5 |
| 1–2 . . . . .                   | 34,700         | 44.8                 | 4.0             | 31,100                              | 12.9    | 3.0 | 32,500  | 18.5    | 4.3 |
| 3–10 . . . . .                  | 121,500        | 44.3                 | 2.5             | 105,300                             | 9.4     | 1.5 | 109,900 | 14.6    | 1.7 |
| More than 10 . . . . .          | 112,200        | 43.6                 | 2.4             | 100,800                             | 10.7    | 1.4 | 103,100 | 13.9    | 2.0 |
| Practice size                   |                |                      |                 |                                     |         |     |         |         |     |
| Solo . . . . .                  | 111,500        | 35.7                 | 2.5             | 101,400                             | 3.1     | 0.8 | 104,300 | 6.9     | 1.1 |
| Partner . . . . .               | 36,700         | 45.4                 | 3.6             | 32,300                              | 12.9    | 2.6 | 33,100  | 11.7    | 2.3 |
| 3–5 physicians . . . . .        | 83,600         | 47.2                 | 2.8             | 71,800                              | 12.1    | 1.8 | 74,200  | 17.7    | 2.4 |
| 6–10 physicians . . . . .       | 46,100         | 44.6                 | 3.7             | 41,600                              | 13.9    | 2.7 | 42,700  | 17.1    | 3.0 |
| 11 or more physicians . . . . . | 33,300         | 44.5                 | 3.8             | 29,000                              | 14.1    | 3.4 | 30,500  | 22.3    | 3.8 |

\* Figure does not meet standards of reliability or precision (unweighted sample size less than 30, or relative standard error greater than 30 percent).

<sup>1</sup>PA is physician assistant.<sup>2</sup>NP is nurse practitioner.<sup>3</sup>N is the weighted number of physician offices having each type of clinician per year.<sup>4</sup>Percent is the number of physician offices with training for each type of provider divided by the total number of offices that employ each type of provider.<sup>5</sup>SE is standard error.

**Table 3. Mean number of terrorism-related exposures for which selected clinicians who work in practices of office-based physicians have received training in identification and diagnosis, by selected practice characteristics: United States, 2003–2004**

| Characteristic                  | Physicians     |      |                 |                     | PA <sup>1</sup> and NP <sup>2</sup> |      |     |         | Nurses |      |     |         |
|---------------------------------|----------------|------|-----------------|---------------------|-------------------------------------|------|-----|---------|--------|------|-----|---------|
|                                 | N <sup>3</sup> | Mean | SE <sup>4</sup> | 95% CI <sup>5</sup> | N                                   | Mean | SE  | 95% CI  | N      | Mean | SE  | 95% CI  |
| All physicians . . . . .        | 131,300        | 6.0  | 0.1             | 5.8–6.3             | 25,900                              | 5.3  | 0.3 | 4.7–5.9 | 38,300 | 4.8  | 0.2 | 4.4–5.3 |
| Specialty                       |                |      |                 |                     |                                     |      |     |         |        |      |     |         |
| Primary care . . . . .          | 76,000         | 6.0  | 0.2             | 5.6–6.3             | 18,000                              | 5.3  | 0.4 | 4.5–6.0 | 24,800 | 4.7  | 0.3 | 4.2–5.3 |
| Surgical . . . . .              | 26,900         | 6.1  | 0.2             | 5.6–6.6             | 4,300                               | 5.6  | 0.6 | 4.5–6.7 | 7,300  | 5.2  | 0.5 | 4.3–6.2 |
| Medical . . . . .               | 28,400         | 6.2  | 0.3             | 5.7–6.7             | 3,600                               | 5.2  | 0.7 | 3.9–6.6 | 6,200  | 4.8  | 0.6 | 3.6–5.9 |
| Metropolitan statistical area   |                |      |                 |                     |                                     |      |     |         |        |      |     |         |
| Urban . . . . .                 | 113,700        | 6.1  | 0.1             | 5.8–6.4             | 22,100                              | 5.5  | 0.3 | 4.8–6.1 | 30,000 | 4.8  | 0.3 | 4.3–5.3 |
| Rural . . . . .                 | 17,600         | 5.7  | 0.4             | 4.9–6.5             | *                                   | *    | *   | **      | 8,300  | 5.1  | 0.5 | 4.1–6.1 |
| Region                          |                |      |                 |                     |                                     |      |     |         |        |      |     |         |
| Northeast . . . . .             | 32,300         | 5.6  | 0.3             | 5.1–6.2             | 6,000                               | 5.4  | 0.6 | 4.3–6.5 | 6,100  | 4.5  | 0.5 | 3.6–5.4 |
| Midwest . . . . .               | 28,600         | 5.6  | 0.3             | 5.0–6.2             | 5,900                               | 6.3  | 0.6 | 5.0–7.6 | 10,500 | 5.7  | 0.4 | 4.8–6.6 |
| South . . . . .                 | 41,200         | 6.2  | 0.2             | 5.8–6.6             | 7,900                               | 4.1  | 0.4 | 3.3–4.9 | 14,400 | 4.3  | 0.3 | 3.7–5.0 |
| West . . . . .                  | 29,100         | 6.7  | 0.2             | 6.2–7.2             | 6,000                               | 6.0  | 0.7 | 4.7–7.3 | 7,200  | 4.9  | 0.5 | 3.8–5.9 |
| Managed care contracts          |                |      |                 |                     |                                     |      |     |         |        |      |     |         |
| None . . . . .                  | 13,000         | 6.1  | 0.5             | 5.2–7.0             | *                                   | *    | *   | **      | *      | *    | *   | **      |
| 1–2 . . . . .                   | 15,500         | 6.1  | 0.4             | 5.4–6.8             | *                                   | *    | *   | **      | 6,000  | 5.0  | 0.6 | 3.9–6.2 |
| 3–10 . . . . .                  | 53,800         | 5.9  | 0.2             | 5.6–6.3             | 9,900                               | 5.6  | 0.5 | 4.6–6.6 | 16,100 | 4.6  | 0.4 | 3.9–5.4 |
| More than 10 . . . . .          | 48,900         | 6.1  | 0.2             | 5.7–6.5             | 10,800                              | 5.0  | 0.4 | 4.2–5.7 | 14,300 | 4.9  | 0.4 | 4.2–5.6 |
| Practice size                   |                |      |                 |                     |                                     |      |     |         |        |      |     |         |
| Solo . . . . .                  | 39,800         | 6.2  | 0.2             | 5.8–6.7             | *                                   | *    | *   | **      | 7,200  | 4.2  | 0.5 | 3.4–5.1 |
| Partner . . . . .               | 16,700         | 5.7  | 0.4             | 5.0–6.4             | 4,200                               | 4.8  | 0.6 | 3.6–6.0 | 3,900  | 4.0  | 0.6 | 2.7–5.2 |
| 3–5 physicians . . . . .        | 39,500         | 5.9  | 0.2             | 5.4–6.3             | 8,700                               | 5.4  | 0.5 | 4.5–6.3 | 13,100 | 5.3  | 0.4 | 4.5–6.1 |
| 6–10 physicians . . . . .       | 20,500         | 6.1  | 0.3             | 5.5–6.8             | 5,800                               | 5.7  | 0.6 | 4.4–7.0 | 7,300  | 5.2  | 0.5 | 4.3–6.2 |
| 11 or more physicians . . . . . | 14,800         | 6.2  | 0.4             | 5.4–7.1             | *                                   | *    | *   | **      | 6,800  | 4.7  | 0.7 | 3.3–6.1 |

\* Figure does not meet standards of reliability or precision (unweighted sample size less than 30, or relative standard error greater than 30 percent).

<sup>1</sup>PA is physician assistant.

<sup>2</sup>NP is nurse practitioner.

<sup>3</sup>N is the weighted number of practices having each type of clinician per year.

<sup>4</sup>SE is standard error.

<sup>5</sup>CI is confidence interval.

NOTE: Means are based upon the clinicians who have received training in at least one exposure.



**Table 4. Percentage of physicians who would seek assistance from selected sources for diagnosing symptoms possibly related to terrorism: United States, 2003–2004**

| Source   | Percent | SE <sup>1</sup> |
|--|---------|-----------------|
| State or local health officials . . . . .          | 56.2    | 1.7             |
| CDC <sup>2</sup> or other federal agency . . . . . | 49.0    | 1.4             |
| Colleague or consultant . . . . .                  | 44.6    | 1.9             |
| Internet . . . . .                                 | 16.3    | 1.2             |
| Medical association . . . . .                      | 16.0    | 1.2             |
| Medical journals . . . . .                         | 13.5    | 1.1             |
| Medical textbook . . . . .                         | 13.2    | 1.0             |
| Other . . . . .                                    | 14.6    | 1.1             |

<sup>1</sup>SE is standard error.<sup>2</sup>CDC is Centers for Disease Control and Prevention.

NOTES: Physician estimates based on unweighted n=2,235, corresponding to 311,170 physicians per year. More than one source of diagnostic assistance could be reported.

**Table 5. Percentage of office-based physicians who would report information about a patient with possible terrorism-related symptoms to selected agencies: United States, 2003–2004**

| Source   | Percent | SE <sup>1</sup> |
|--|---------|-----------------|
| State or local health department . . . . .           | 67.1    | 1.5             |
| Centers for Disease Control and Prevention . . . . . | 50.9    | 1.5             |
| Local hospital . . . . .                             | 27.5    | 1.3             |
| Other state or local government agencies . . . . .   | 11.4    | 1.0             |
| Local medical association . . . . .                  | 9.1     | 0.9             |
| Law enforcement . . . . .                            | 8.8     | 0.8             |
| Other federal agency . . . . .                       | 7.0     | 0.8             |
| Laboratory . . . . .                                 | 5.4     | 0.7             |
| Local political office . . . . .                     | 1.8     | 0.4             |
| Other . . . . .                                      | 7.3     | 0.7             |

<sup>1</sup>SE is standard error.

NOTES: Physician estimates based on unweighted n=2,235, corresponding to 311,170 physicians per year. More than one agency could be reported.

**Table 6. Number and percentage of office-based physicians who have health department contact information readily available in their offices (e.g., posted, speed dial, or rolodex), by selected practice characteristics: United States, 2003–2004**

| Characteristic                  | N <sup>1</sup> | Percent | SE <sup>2</sup> | 95% CI <sup>3</sup> |
|---------------------------------|----------------|---------|-----------------|---------------------|
| All physicians . . . . .        | 311,200        | 78.8    | 1.2             | 76.4–81.1           |
| Specialty                       |                |         |                 |                     |
| Primary care . . . . .          | 153,700        | 85.6    | 1.7             | 82.0–88.6           |
| Surgical . . . . .              | 84,500         | 73.0    | 1.9             | 69.2–76.5           |
| Medical . . . . .               | 73,000         | 71.5    | 2.6             | 66.2–76.3           |
| Metropolitan statistical area   |                |         |                 |                     |
| Urban . . . . .                 | 275,000        | 77.8    | 1.3             | 75.1–80.2           |
| Rural . . . . .                 | 36,200         | 86.9    | 3.2             | 79.4–92.0           |
| Region                          |                |         |                 |                     |
| Northeast . . . . .             | 66,600         | 76.9    | 2.6             | 71.4–81.6           |
| Midwest . . . . .               | 69,400         | 77.2    | 2.7             | 71.5–82.0           |
| South . . . . .                 | 105,000        | 80.7    | 1.9             | 76.6–84.2           |
| West . . . . .                  | 70,200         | 79.6    | 2.7             | 73.9–84.4           |
| Managed care contracts          |                |         |                 |                     |
| None . . . . .                  | 42,700         | 68.9    | 3.6             | 61.4–75.6           |
| 1–2 . . . . .                   | 34,700         | 82.3    | 3.1             | 75.4–87.6           |
| 3–10 . . . . .                  | 121,500        | 82.4    | 1.7             | 78.9–85.5           |
| More than 10 . . . . .          | 112,200        | 77.7    | 2.2             | 73.1–81.6           |
| Practice size                   |                |         |                 |                     |
| Solo . . . . .                  | 111,500        | 75.2    | 2.1             | 71.0–79.0           |
| Partner . . . . .               | 36,700         | 78.3    | 3.3             | 71.0–84.1           |
| 3–5 physicians . . . . .        | 83,600         | 83.4    | 2.1             | 78.9–87.1           |
| 6–10 physicians . . . . .       | 46,100         | 79.2    | 2.8             | 73.1–84.2           |
| 11 or more physicians . . . . . | 33,300         | 79.5    | 3.3             | 72.2–85.3           |

<sup>1</sup>N is the weighted annual number of office-based physicians.<sup>2</sup>SE is standard error.<sup>3</sup>CI is confidence interval.

**Table 7. Percent distribution of office-based physicians who last reviewed the list of reportable diseases before September 11, 2001, since that date, or not at all, according to selected practice characteristics: United States, 2003–2004**

| Characteristic                 | Reportable diseases reviewed |                      |                 |                     |                      |     |           |                   |     |           |
|--------------------------------|------------------------------|----------------------|-----------------|---------------------|----------------------|-----|-----------|-------------------|-----|-----------|
|                                | Before September 2001        |                      |                 |                     | Since September 2001 |     |           | List not reviewed |     |           |
|                                | N <sup>1</sup>               | Percent <sup>2</sup> | SE <sup>3</sup> | 95% CI <sup>4</sup> | Percent              | SE  | 95% CI    | Percent           | SE  | 95% CI    |
| All physicians. . . . .        | 311,200                      | 11.3                 | 0.9             | 9.6–13.2            | 53.7                 | 1.5 | 50.8–56.6 | 35.0              | 1.5 | 32.2–38.0 |
| Specialty                      |                              |                      |                 |                     |                      |     |           |                   |     |           |
| Primary care. . . . .          | 153,700                      | 12.9                 | 1.4             | 10.3–16.0           | 61.4                 | 2.0 | 57.5–65.1 | 25.7              | 1.9 | 22.2–29.6 |
| Surgical. . . . .              | 84,500                       | 11.6                 | 1.3             | 9.3–14.4            | 46.1                 | 2.4 | 41.5–50.8 | 42.3              | 2.3 | 37.8–46.9 |
| Medical. . . . .               | 73,000                       | 7.5                  | 1.3             | 5.3–10.5            | 46.2                 | 2.9 | 40.6–51.9 | 46.3              | 2.9 | 40.7–52.1 |
| Metropolitan statistical area  |                              |                      |                 |                     |                      |     |           |                   |     |           |
| Urban. . . . .                 | 275,000                      | 11.8                 | 1.0             | 10.1–13.9           | 51.9                 | 1.6 | 48.8–55.0 | 36.3              | 1.6 | 33.2–39.4 |
| Rural. . . . .                 | 36,200                       | 7.1                  | 2.2             | 3.8–12.7            | 67.1                 | 4.3 | 58.3–74.9 | 25.8              | 3.9 | 18.9–34.3 |
| Region                         |                              |                      |                 |                     |                      |     |           |                   |     |           |
| Northeast. . . . .             | 66,600                       | 10.2                 | 1.9             | 7.1–14.6            | 50.5                 | 2.8 | 45.0–56.0 | 39.3              | 3.1 | 33.4–45.4 |
| Midwest. . . . .               | 69,400                       | 10.9                 | 1.6             | 8.1–14.5            | 50.6                 | 3.1 | 44.5–56.7 | 38.5              | 3.6 | 31.8–45.7 |
| South. . . . .                 | 105,000                      | 15.3                 | 2.0             | 11.9–19.5           | 55.6                 | 2.9 | 49.9–61.1 | 29.1              | 2.7 | 24.2–34.6 |
| West. . . . .                  | 70,200                       | 6.6                  | 1.2             | 4.7–9.4             | 56.9                 | 2.9 | 51.1–62.5 | 36.5              | 2.8 | 31.1–42.2 |
| Managed care contracts         |                              |                      |                 |                     |                      |     |           |                   |     |           |
| None. . . . .                  | 42,700                       | 9.3                  | 2.0             | 6.1–14.0            | 44.6                 | 3.8 | 37.3–52.1 | 46.1              | 3.8 | 38.8–53.6 |
| 1–2. . . . .                   | 34,700                       | 8.9                  | 2.0             | 5.8–13.6            | 56.0                 | 4.2 | 47.6–64.0 | 35.1              | 4.0 | 27.7–43.3 |
| 3–10. . . . .                  | 121,500                      | 9.8                  | 1.3             | 7.6–12.6            | 57.1                 | 2.1 | 52.8–61.2 | 33.2              | 2.2 | 28.9–37.7 |
| More than 10. . . . .          | 112,200                      | 14.3                 | 1.9             | 11.1–18.4           | 52.8                 | 2.4 | 48.0–57.5 | 32.9              | 2.4 | 28.4–37.7 |
| Practice size                  |                              |                      |                 |                     |                      |     |           |                   |     |           |
| Solo. . . . .                  | 111,500                      | 13.3                 | 1.7             | 10.3–16.9           | 49.6                 | 2.4 | 45.0–54.2 | 37.2              | 2.4 | 32.6–42.0 |
| Partner. . . . .               | 36,700                       | 12.6                 | 2.2             | 8.8–17.7            | 50.3                 | 4.0 | 42.5–58.2 | 37.1              | 3.8 | 30.0–44.7 |
| 3–5 physicians. . . . .        | 83,600                       | 10.6                 | 1.7             | 7.7–14.4            | 56.2                 | 2.5 | 51.3–61.1 | 33.2              | 2.5 | 28.6–38.2 |
| 6–10 physicians. . . . .       | 46,100                       | 8.9                  | 1.8             | 6.0–13.1            | 58.6                 | 3.6 | 51.5–65.4 | 32.4              | 3.5 | 26.1–39.5 |
| 11 or more physicians. . . . . | 33,300                       | 8.2                  | 2.3             | 4.7–13.8            | 58.0                 | 4.4 | 49.3–66.2 | 33.9              | 4.2 | 26.1–42.6 |

<sup>1</sup>N is the weighted annual number of office-based physicians.<sup>2</sup>Percent is percentage of office-based physicians who last reviewed the list of notifiable diseases.<sup>3</sup>SE is standard error.<sup>4</sup>CI is confidence interval.

NOTE: Row percentages add to 100 percent.



**Technical Notes**

**Section II - INDUCTION INTERVIEW - Continued**

**26. This next set of questions deal with preparedness for bioterror events.**

**a. Have you or your staff received special training (e.g., in-service or other courses, CME, Grand Rounds, or self-guided study) since September 2001 in the identification and diagnosis of the following terrorism-related diseases/conditions?**

None - SKIP to item 27a on page 14.

Type of personnel who received training. Mark (X) appropriate columns **OR** mark (X) N/A box, if the physician's practice does not have this type of personnel.

|  | MD/DO                      | <input type="checkbox"/> N/A | <input type="checkbox"/> N/A | <input type="checkbox"/> N/A |
|--|----------------------------|------------------------------|------------------------------|------------------------------|
|  |                            | PA/NP                        | RN/LPN                       | Other                        |
| (1) <b>Smallpox</b>                                      | 1 <input type="checkbox"/> | 2 <input type="checkbox"/>   | 3 <input type="checkbox"/>   | 4 <input type="checkbox"/>   |
| (2) <b>Anthrax</b>                                       | 1 <input type="checkbox"/> | 2 <input type="checkbox"/>   | 3 <input type="checkbox"/>   | 4 <input type="checkbox"/>   |
| (3) <b>Plague</b>  | 1 <input type="checkbox"/> | 2 <input type="checkbox"/>   | 3 <input type="checkbox"/>   | 4 <input type="checkbox"/>   |
| (4) <b>Botulism</b>                                      | 1 <input type="checkbox"/> | 2 <input type="checkbox"/>   | 3 <input type="checkbox"/>   | 4 <input type="checkbox"/>   |
| (5) <b>Tularemia</b>                                     | 1 <input type="checkbox"/> | 2 <input type="checkbox"/>   | 3 <input type="checkbox"/>   | 4 <input type="checkbox"/>   |
| (6) <b>Viral Hemorrhagic fever</b>                       | 1 <input type="checkbox"/> | 2 <input type="checkbox"/>   | 3 <input type="checkbox"/>   | 4 <input type="checkbox"/>   |
| (7) <b>Viral Encephalitis (WNV, SLE, EEE, VEE, etc.)</b> | 1 <input type="checkbox"/> | 2 <input type="checkbox"/>   | 3 <input type="checkbox"/>   | 4 <input type="checkbox"/>   |
| (8) <b>Chemical exposure</b>                             | 1 <input type="checkbox"/> | 2 <input type="checkbox"/>   | 3 <input type="checkbox"/>   | 4 <input type="checkbox"/>   |
| (9) <b>Radiological exposure</b>                         | 1 <input type="checkbox"/> | 2 <input type="checkbox"/>   | 3 <input type="checkbox"/>   | 4 <input type="checkbox"/>   |

**b. Which methods of training were utilized for the diseases/conditions for which you or your staff received training?**

(Mark (X) all that apply.)

- 1  Instructor-led course/workshop
- 2  Self-study course
- 3  Book or journal article
- 4  Other - Please Specify *z*

**c. Who conducted the training?**

(Mark (X) all that apply.)

- 1  Professional association (e.g., medical, physician assistant, nursing, and/or laboratory)
- 2  State or local public health department
- 3  Other state or local government agency
- 4  Federal agency
- 5  Hospital
- 6  Insurance organization
- 7  Private vendor
- 8  Other - Please specify *z*

| Section II - INDUCTION INTERVIEW - Continued   |   |
|--|---|
| <p><b>27a. Where would you turn for assistance in diagnosing patients presenting with unusual patterns of symptoms possibly related to terrorism?</b></p> <p><i>(Mark (X) all that apply.)</i></p>           | <p>1 <input type="checkbox"/> CDC/Other Federal agency</p> <p>2 <input type="checkbox"/> Colleague/Consultant</p> <p>3 <input type="checkbox"/> Internet</p> <p>4 <input type="checkbox"/> Medical association</p> <p>5 <input type="checkbox"/> Medical journals/Peer-reviewed literature</p> <p>6 <input type="checkbox"/> Medical textbook</p> <p>7 <input type="checkbox"/> State/Local public health officials</p> <p>8 <input type="checkbox"/> Other - Please specify <input checked="" type="checkbox"/></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>  |
| <p><b>b. If you believe that a patient under your care has acquired one of the diseases/conditions listed above, to whom would you report that information?</b></p> <p><i>(Mark (X) all that apply.)</i></p> | <p>1 <input type="checkbox"/> CDC</p> <p>2 <input type="checkbox"/> Other Federal agency</p> <p>3 <input type="checkbox"/> Laboratory</p> <p>4 <input type="checkbox"/> Law enforcement</p> <p>5 <input type="checkbox"/> Local hospital</p> <p>6 <input type="checkbox"/> Local medical association</p> <p>7 <input type="checkbox"/> Local political office</p> <p>8 <input type="checkbox"/> State or local public health department</p> <p>9 <input type="checkbox"/> Other state or local government agency (e.g., Office of Emergency Management)</p> <p>10 <input type="checkbox"/> Other - Please specify <input checked="" type="checkbox"/></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> |

| Section II - INDUCTION INTERVIEW - Continued   |  |
|--|--|
| <p><b>28a. Is contact information for your local health department readily available in your office or primary practice site (e.g., posted, speed dial, or rolodex)?</b></p>   | <p>1 <input type="checkbox"/> Yes</p> <p>2 <input type="checkbox"/> No</p>   |
| <p><b>b. When did your office last review the list of diseases defined as reportable in your state or local jurisdiction?</b></p>  | <p>1 <input type="checkbox"/> Before September 2001</p> <p>2 <input type="checkbox"/> Since September 2001</p> <p>3 <input type="checkbox"/> Not reviewed list</p>   |
| <p><b>29. What is the preferred method in your practice for receiving updates about the prevention, diagnosis, therapy and reporting of terrorism-related conditions?</b></p> <p><i>(Mark (X) one.)</i></p> <p><i>PROBE for only one answer.</i></p> | <p>1 <input type="checkbox"/> Conferences</p> <p>2 <input type="checkbox"/> E-mail</p> <p>3 <input type="checkbox"/> Facsimile transmission</p> <p>4 <input type="checkbox"/> Health Alert Network (HAN)</p> <p>5 <input type="checkbox"/> Other Internet - Specify site <input checked="" type="checkbox"/></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p>6 <input type="checkbox"/> Mail</p> <p>7 <input type="checkbox"/> Medical journals</p> <p>8 <input type="checkbox"/> News media (e.g., television, newspapers, etc.)</p> <p>9 <input type="checkbox"/> Professional specialty societies</p> <p>10 <input type="checkbox"/> Telephone</p> |

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**Suggested citation**

Niska RW, Burt CW. National Ambulatory Medical Care Survey: Terrorism preparedness among office-based physicians, United States, 2003–2004. Advance data from vital and health statistics; no 390. Hyattsville, MD: National Center for Health Statistics. 2007.

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CS112222 (7/2007)  
T28900  
DHHS Publication No. (PHS) 2007-1250