

Attention from the Top:

**Roles of State Offices of Rural Health Policy in Preparing for
Bioterrorism and Other Health System Emergencies**

Final Report Presented to:

The Federal Office of Rural Health Policy

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Executive Summary

Several years ago, the federal Office of Rural Health Policy (ORHP) released a report on perspectives of directors of state offices of rural health on emergency preparedness in rural communities. State directors expressed concerns over whether hospital and public health infrastructure capacity was adequate for meeting preparedness needs and about their state's lack of resources for preparedness in rural areas. Since release of this report, billions of dollars have been granted to the states for use in strengthening capacity to respond to bioterrorist threats and other emergencies by the U.S. Centers for Disease Control (CDC) and the Health Resources and Service Administration (HRSA). Numerous parties at the state and local levels of government, and private sector health care providers and other emergency personnel have been involved in CDC and HRSA grant-related funding work. This report presents results from a follow-up survey of directors of state offices of rural health.

A telephone survey of directors of state offices of rural health was used to identify state office involvement with emergency preparedness (EP) activities. Questions were asked about involvement with issues that were likely to impact rural communities and providers, including development of state and local response plans, systems for electronic exchange of information, and completion of hospital preparedness assessments. Questions were also used to assess the overall level of the office's involvement in EP activities and the director's perceptions of EP and the evolution of preparedness in rural areas of their state.

Representatives from offices in 42 states participated in the survey. Ninety percent (38) of participating offices were involved in EP activities at the time of the survey or at some time during the year preceding the survey. The remaining offices -- offices in four states -- indicated no direct involvement, as officials in these states who assumed EP responsibilities were with other state departments or agencies.

Findings indicate that the nature of involvement varied considerably across states. In many states, the rural health office's director and/or staff had significant EP involvement, predicated on the office's roles as a source of information *for* rural constituents or as a source of information *on behalf of* rural constituents. Most offices were involved in activities related to development of an emergency preparedness response plan encompassing the state (71 percent) or development of a plan for regions within the state (55 percent). Over half of state office directors reported involvement in assessment of training needs of emergency personnel and in assessing EP of rural hospitals. Almost half of state offices participated in assessment of rural public health system preparedness capabilities. Sixty-one percent of offices assisted in development of capabilities for the electronic exchange of information among health care providers and public health officials serving rural areas, and 48 percent of rural offices were engaged in activities in support of development of a system for receipt of urgent reports or information by providers on a 24-hour-7-day basis.

Survey results indicate that while the extent of office involvement in EP activities varied across the states, office involvement in EP activities was generally not regarded by directors as limited by funding *per se*, but by competing priorities on uses of their time and how EP activities are organized in their state.

Perceptions of state office directors suggest that EP has improved somewhat during the past several years. Survey responses suggest that the surveillance capacity of public health departments has improved since ORHP's first survey in 2001. At the same time, state office directors indicated that progress is needed in rural areas. Among the most pressing needs were for improvements in communication and for additional EP training, especially for EMS and hospital personnel.

1. Introduction and Background

In 2001, the federal Office of Rural Health Policy (ORHP) released its report on perspectives of directors of state offices of rural health on emergency preparedness in rural communities.¹ State directors expressed concerns over whether hospital and public health infrastructure capacity was adequate for meeting preparedness needs. Results of the survey also indicated that although many of the state offices of rural health were participating in planning, office respondents in a number of states were concerned about their state's lack of resources for preparedness in rural areas.

Since release of ORHP's report, billions of dollars have been granted to the states under the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 for use in strengthening capacity to respond to bioterrorist threats and other emergencies.² For FY 2002, the U.S. Centers for Disease Control (CDC) administered awards for public health preparedness totaling \$918 million, and the Health Resources and Service Administration (HRSA) administered hospital preparedness cooperative agreements totaling \$125 million. Funds distributed for FY 2003 by the CDC totaled \$870 million, and \$498 million were distributed by HRSA.³ And in spring 2004, the third rounds of funding were announced – hospital preparedness funds from HRSA, totaling \$498 million, and public health preparedness funds from the CDC, totaling \$849 million. Numerous parties at the state and local levels of government, and private sector health care providers and other emergency personnel have been involved in CDC and HRSA grant-related funding work.

¹ Office of Rural Health Policy (ORHP). *Rural Communities and Emergency Preparedness*. Rockville, MD: ORHP, 2002.

² United States Department of Health & Human Services (USDHHS). *HHS Announces \$1.1 Billion in Funding to States for Bioterrorism Preparedness*. Press Release, <http://www.hhs.gov/news/press/2002pres/20020131.html>, Thursday, January 31, 2002.

³ U.S. General Accounting Office (US GAO), *HHS Bioterrorism Preparedness Programs: States Reported Progress but Fell Short of Program Goals for 2002*, Briefing for Congressional Staff, (GAO-04-360R), January 14, 2004. United States Department of Health & Human Services (USDHHS). *HHS Announces Bioterrorism Aid for States, Including Special Opportunity for Advance Funding*. Press Release, <http://www.hhs.gov/news/press/2003pres/20030302.html>, Thursday, March 20, 2003.

The purpose of this report is to present results from a follow-up survey of directors of state offices of rural health. We identify state office involvement with emergency preparedness (EP) in rural areas of their state during the year preceding spring 2004, revisiting issues that were raised in ORHP's earlier survey concerning office involvement in the state's current use of funds earmarked to bioterrorism preparedness.

This report is the most recent of a series of reports by Walsh Center staff on emergency preparedness issues pertaining to rural areas.⁴ States have considerable discretion in how EP funds are used, as described in the next section. Survey methods are summarized in the second section of this report. Results are then presented and compared with selected findings from ORHP's earlier study. Policy implications are addressed in the final section.

Since 2002, CDC and HRSA grant funds have generally been distributed to the states on a formula basis. In 2002, for example, the CDC distributed \$5 million to each state, plus an additional amount based on the state's population. HRSA distributed \$250,000, plus a per capita amount to each state and required that at least 74 percent of funds be allocated to hospitals or other health care entities.⁵

Although funding has been by formula, states have been required to prepare formal requests as a requirement of funding from both sources, and funded states were required to prepare an EP plan. General guidelines were issued to assist state personnel with preparation of plans and to help direct states on how to use funds. Focus areas for improvement of public health EP using CDC funds have included preparedness planning and readiness assessment, surveillance and epidemiology, communications and information technology, and education and training. Priority areas for work under the HRSA cooperative agreements have included regional surge capacity, communications, training, emergency medical services, and hospital linkages to public health departments.

⁴ Preparedness of rural hospitals is addressed in Schur, CL, Berk, ML, and Mueller, CD, *Perspectives of Rural Hospitals on Bioterrorism Preparedness Planning*, Walsh Center Policy Analysis Brief, W Series, No. 4, April 2004.

⁵ *Ibid.*, US GAO, 2004.

States have been permitted to exercise considerable discretion in how funds are allocated and used to meet focus area objectives.⁶ States distributed CDC funds to local public health agencies in a variety of ways, and proportions of allotments that were distributed to agencies varied from state to state. Similarly, HRSA funds were distributed and used in different ways by the states. Some states administered funds themselves, while funds were administered by hospital associations in other states. Amounts received by hospitals have varied within the states. Just as state and local government agencies responsible for administration of funds vary across the states, i.e., reflecting differences in the structure of state and local governments, the type of personnel and organizations who have provided assistance to state and local government agencies responsible for administration of CDC and HRSA funds vary across the states. In this environment, EP roles assumed by staff of states' offices of rural health are expected to differ, as illustrated by two examples.

During the 2003 and 2004 funding cycles, the State of Washington received over \$54.2 million in CDC and HRSA funding. These funds were administered by the Health Emergency and Response Program, a unit of the state's Department of Health. The Program's goals have included helping local public health departments and other components of the state's health delivery system respond to bioterrorist threats and other health emergencies. Past activities included development of local and regional response plans, performance of assessments of components of the public health system and hospital readiness, and efforts to improve communication between members of the public health and provider communities. But the Health Emergency and Response Program is only one of many government agencies/units that have responsibilities under the State of Washington's homeland security plan. Among state government bodies with key roles are the Emergency Management Council, the Council's Committee on Terrorism, the Washington State Military Department, and its Emergency Management Division. Over 50 government and private sector "partners" are listed as part of "Team Washington" in

⁶ *Ibid.*, US GAO, 2004.

the state's list of partners (Appendix B) of the Washington Statewide Homeland Security Strategic Plan.⁷

Washington's Office of Rural Health appears to have made significant contributions to the state's EP efforts. More than a year ago (before the reference period of our survey) staff of the Department of Health's State Office of Rural Health participated in meetings with other Department of Health personnel to help plan EP activities. Office staff shared contact information on rural providers, including rural health clinic and community health center associations and other rural constituents that were to be involved in the planning process. Office staff also urged that careful consideration be given to how HRSA dollars were to be allocated to hospitals, arguing that allocation in proportion to hospital size was not necessarily optimal, as smaller rural hospitals might initially need disproportionately more resources to jump-start various EP activities than larger rural and urban hospitals. During the 12-month period prior to our survey, office staff participated in meetings concerning preparedness of EMS providers and their equipment inventories and how best to get the various parts of the state's health care system involved in EP, especially the state's rural health clinics.

In Illinois, as in the State of Washington, EP activities involve a number of state and local government entities. The primary state entities are the Department of Public Health, the Illinois Emergency Management Agency, and a homeland security coordinator who works across agencies. Local government functions are met at the county level and through local public health agencies that serve more than 99 percent of the state's population.⁸ During the 2003 and 2004 funding cycles, the State of Illinois received over \$80.3 million in CDC and HRSA funding, which has been administered by the Emergency Management Agency.

⁷ Available at [//emd.wa.gov/site-general/wahsas/05-draft-7-wa-hs-strat-pln.pdf](http://emd.wa.gov/site-general/wahsas/05-draft-7-wa-hs-strat-pln.pdf). It is interesting to note that a report, published in 2003 by the Century Foundation on homeland security in the State of Washington under its Homeland Security initiative (Stehr, SD, *Homeland Security in the State of Washington: A Baseline Report of the Activities of State and Local Governments*) does not mention the State's Department of Health as an administrator of CDC funds until page 25 of its 32 pages.

⁸ Turnock, BJ. *Public Health Preparedness at a Price: Illinois*. New York: The Century Foundation, 2004.

Illinois' Office of Rural Health, a unit within the Department of Public Health, participated in EP activities prior to the period covered by our 2003-2004 survey. For example, office staff served on a hospital work group convened by the Terrorism Task Force's Bioterrorism Committee. The work group was asked to make recommendations on minimum preparedness levels for hospitals and non-hospital medical facilities. Other members of the work group included staff from the Department of Public Health, the Chicago Department of Public Health, the Illinois Poison Center, the Illinois Emergency Management Agency, the Illinois College of Emergency Physicians, and numerous other entities.⁹ Unlike the Washington State rural health office, however, the respondent to our survey from the Illinois Office of Rural Health reported no EP activities during the 12-month reference period.

2. Methods

Survey Development

Walsh Center staff developed a survey instrument for administration by telephone with representatives of state offices of rural health. The survey was developed using information obtained from several sources, including: the first survey and discussions with ORHP staff who administered the survey; discussions with directors and staff of several state offices of rural health; and published literature on EP funding and activities, including guidances on CDC and HRSA funding and several state EP plans. A draft questionnaire was pilot-tested with several rural office directors and subsequently revised based on comments received during testing and a review of responses.

Survey questions were designed to collect three types of information. First, information on activities related to EP during the preceding 12-month period by the office director and staff was of primary interest. An open-ended question was used to collect this information, and several categorical questions were used to ask about involvement in specific types of activities that were enumerated as possible focus areas in CDC and

⁹ Illinois Homeland Security, *Security Update*, April 26, 2002, www.illinois.gov/security/preparedness/042602_update.htm.

HRSA applications for funding. Questions were asked about involvement with issues that were likely to impact rural communities and providers, including development of state and local response plans, systems for electronic exchange of information, and completion of hospital preparedness assessments.¹⁰

A second priority was assessing the level of office involvement. Survey questions on the time required of the director and staff for EP activities, and whether the office received any supplemental funding to support these activities were developed for use in assessing directly the level of office involvement. Third, several questions were prepared to obtain information on the director's perceptions of EP and the evolution of preparedness in rural areas of their state. These questions are categorical in nature, and were answered using two to several response categories.

Data Collection

The sampling frame for the survey was the universe of all directors of state offices of rural health.¹¹ All offices were contacted during the field period, March-April 2004. Interviews were scheduled and conducted over the telephone with office directors whenever possible. Office staff provided responses from several offices where the director was not available to complete the survey. Several callbacks were used to obtain information from each state office.

¹⁰ Focus areas have evolved during the three years of funding. Areas are listed in the funding guidances issued by CDC and HRSA, by the states in their funding applications, and elsewhere, e.g., Turnock, pp. 11-13 and U.S. General Accounting Office (US GAO), *Bioterrorism: Preparedness Varied across State and Local Jurisdictions*, GAO-03-373, April 2003, p. 13.

¹¹ The list contained in the publication, *State Offices of Rural Health: 50 Success Stories* (Rockville, MD: Health Resources and Services Administration, August 2000) was updated.

Estimation

Verbatim responses to open-ended questions concerning the office's involvement in EP activities were reviewed by at least two and usually three Walsh Center analysts. These responses were used to generate a qualitative understanding of office involvement in EP and to support quantitative measures for analysis. Open-ended responses were reviewed for identification of activities that were not asked about elsewhere in the survey. We flagged rural offices with director or staff involvement in the administration of a grant(s) or provision of technical assistance in support of a grant(s) involving a rural client(s), offices that explicitly indicated playing a role as a purveyor of information for rural providers or other rural clients, and offices with directors who explicitly noted his/her/staff serving as a spokesperson for rural EP interests in their state.

Univariate statistics were used to analyze office involvement. Frequency distributions of categorical responses were produced, and mean values of responses were calculated when appropriate, e.g., for "scores" of EP progress provided by state office directors. Cross-tabulations were produced to relate various survey data items to other secondary data. In particular, we examined relationships between survey responses and secondary data measuring the state's rurality and independently obtained data indicating state progress in meeting EP goals. State rurality was measured by categorizing states according to whether the fraction of the state's rural population exceeded or was less than the median value for states nationwide.¹² This indicator was related to certain survey data items to test hypotheses on whether survey response patterns differed between more and less rural states.

Independent data on state progress towards meeting EP goals were obtained for examination of their relationship with perceptions of state rural health office directors from the survey. Scores indicating state progress in meeting EP goals for the years 2003 and 2004 were obtained from the Trust for America's Health (TFAH) project, funded under grants from the Robert Wood Johnson Foundation. Scores were developed by the

¹² Rural and total population estimates were from the 2002 U.S. Census.

TFAH study team based on whether the state had met certain EP criteria, e.g, whether the state had a disease-tracking system in day-to-day use, whether there is local concurrence with the state's bioterrorism preparedness plan, etc. TFAH scores were not designed to measure the same criteria each year, but to measure the *evolution* of EP over time. We used the relative change in scores as a measure of progress at the state-level for those states for which rural office director's assessments were available from our survey.¹³ TFAH scores were normalized, and the difference between the normalized scores for 2004 and 2003 was calculated for each state as an index of EP progress.¹⁴

3. Findings

Emergency Preparedness Activities of the State Rural Health Offices

When the state offices of rural health were first surveyed by ORHP in November 2001, all respondents (32 states) indicated that their state was developing or revising its emergency preparedness plan, and most offices – 69 percent of respondents – were participating in plan development or other EP activities. By spring 2004, each of the state offices responding to our survey (42 offices) had been involved in bioterrorism emergency preparedness activities since September 11, 2002. However, office representatives in four states indicated no direct involvement at the time of the survey or during the previous twelve months. Officials in these states who assume EP responsibilities are with other state departments or agencies, including emergency medical services, bioterrorism preparedness, and other offices.

The remaining 38 (of 42) respondent rural offices (90 percent of responding state offices) were involved in EP activities at the time of the survey or at some time during the year preceding the survey. Of these 38, *all* had participated by serving on at least one EP advisory committee established by the state or a local government office. Participation

¹³ Hearne, SA et al., *Ready or Not?: Protecting the Public's Health in the Age of Bioterrorism*, Washington, DC: Trust for America's Health (TFAH), December 2004, and TFAH, *Ready or Not?: Protecting the Public's Health in the Age of Bioterrorism*, TFAH, December 2003.

¹⁴ The index (i.e., difference in scores) is positive for states with relatively higher scores in 2004 versus 2003.

on an advisory committee(s)/subcommittee(s) is very important. There are means by which state offices can be involved in EP activities without advisory committee service, but many of these committees are involved in overseeing use of HRSA and CDC grant funds and committee members have responsibilities in further developing and implementing states' plans. Actions by these committees can affect how funds are used, where funds are spent, and in what amounts. In other words, committee actions can direct funds to various segments of the state's health care infrastructure, e.g., primary care, hospitals, EMS, and then to individual facilities or providers within each segment. Thus, participation on committees can be a means by which state offices are able to exert substantive influence on EP activities. Committees are also a confluence of various communication channels between actors directly and indirectly involved in EP activities in the state. State office representatives can use advisory committee meetings to obtain information on EP activities involving other parties, as a forum for disseminating information on rural needs and interests, and as a forum for establishing and maintaining channels of communication with other parties involved in EP.

But as might be expected, involvement in EP varied significantly among the "involved" states. In five states, involvement was minimal – office involvement appears only to have been non-participatory attendance at meetings. The office representative of one western state indicated that the advisory committee benefits from "having my name and title on their list, but they haven't consulted with me about what I perceive as the rural areas' needs." Participation by a director of a midwestern state's office seemed passive – "there hasn't been much beyond attending the meetings... So we respond to what we hear at the meetings." And in a southern state, a representative of the rural health office did not always attend meetings because attendance was not necessary – the person who directed the advisory committee meeting was the same person who directed the bureau within which the rural office resided.

In many states, however, the rural health office's director and/or staff had more significant EP involvement, predicated on the office's roles as a source of information *for* rural constituents or as a source of information *on behalf of* rural constituents. Rural

office directors passed on information obtained from their involvement in EP activities to rural providers. As part of office involvement, the rural office of a midwestern state obtained information from the CDC at advisory meetings and passed this information on to critical access hospitals in the state. Rural office directors also provided information to various state and local government EP officials about the needs and challenges faced by rural communities in dealing with EP. In response to the open-ended question about office activities, about a quarter of directors of involved state offices explicitly referred to their personal or staff's role as a *purveyor* of information for rural providers or other rural clients. They thought of themselves as depended upon to provide information to committee members and others involved in EP on rural needs and interests. In a southern state, the office director served on a committee that monitored funds that were funneled through state regions to providers. In the words of the director,

“I jump up and down and say, ‘don’t forget the rural counties!’ Outside of that committee, my role is to let providers and hospitals in rural areas know how the money is being allocated, so they can go to the regional department and request funds. I’m an information conduit.”

Recognition of the importance of the office in rural activities appeared to be strong in both more and less rural states. In other words, the value of this information was recognized by respondents irrespective of the state's rurality (measured by the percent of the state's population residing in a rural area).

Twenty-six percent of rural office directors explicitly noted his/her/the state office's function of serving as a spokesperson for rural interests in their state. An office director from a northeastern state, concerned that education preparedness might be overlooked in rural areas, summarizes this role:

Small towns will get stockpiles of drugs, equipment, etc., but I was concerned about small rural towns only having part-time local health directors who are also practicing physicians and do public health on the side – those docs would need this education. That's what my role has been: sitting on the committee and saying ‘don't forget the rural towns’.

This role was articulated mainly by directors of *less* rural states (states with less than the median percent rural population), where there is likely to be stronger competition with more urban areas for use of bioterrorism funding. About 43 percent of directors in more urban states (9 of 21) noted the importance of providing information on rural issues, whereas only 10 percent of directors of more rural states referred to this function.

Most of the responding, “involved” state offices were involved in activities related to development of an emergency preparedness response plan encompassing the state (71 percent) or development of a plan for regions within the state (55 percent) (Table 1). The concept of region varies from state to state: in some states, region refers to multiple towns, whereas in others, region might be defined according to districts served by emergency medical services (EMS) providers. Personnel in only three state offices were involved in activities related to development of roles of *multiple* states in a regional plan. Interestingly, the three states were from the northeast, midwest, and mid-Atlantic regions of the country. Although it is surprising that none of the responding states is contiguous, it is certainly not true that all state office directors would necessarily know of or have participated in all discussions in their states concerning EP plans with other states.

In the 2001 survey, state directors suggested many rural providers and hospitals seemed to lack training, resources, and capacity to respond to a bioterrorism or mass casualty event. But these observations were largely “based on anecdotal evidence, as many states have not assessed their rural providers and hospitals.”¹⁵ By 2004, this had changed. Many offices reported involvement in assessments. It is not known with certainty that all of these were assessments necessarily performed under the HRSA or CDC bioterrorism grants. Some reported assessment involvement may have been supported with Flex Program dollars, as many state offices oversee or conduct assessments that may be EP-related under that program.¹⁶ About 55 percent of state office directors reported involvement in assessment of training needs of emergency personnel and 53 percent

¹⁵ *Ibid.*, ORHP, p. 11.

¹⁶ The Flex Program, or Rural Hospital Flexibility Program, has funded conversion of qualifying rural hospitals to Critical Access Hospitals and rural infrastructure development involving EMS and other community needs since the Program was created in 1997.

reported involvement in assessing EP of rural hospitals. It is clear that a number of assessment activities involve office staff in ways other than committee work. In one western state, rural health office staff accompanied a physician on assessment visits to four rural hospitals, which “started more sensitivity to rural needs – you can’t compare them to urban areas. The surveys were revised based on this assessment. We’ve played that role all along, representing rural hospitals.” Similar sentiments were expressed by another western state office director, commenting on his work with a subcommittee involved in surveying rural hospitals: “it was important to have someone representing rural areas on those committees because the temptation is to make urban-based plans and there are so many unique rural qualities that people don’t understand.”

Table 1: Involvement of State Offices of Rural Health in Activities Related to Emergency Preparedness (EP)		
Activity	State Offices	
	Number	Percent
Served state or local government EP advisory Committee	38	100.0
Developed EP plan:		
Statewide	27	71.1
in-state, regional	21	55.3
multi-state, regional	3	7.9
Developed capabilities for electronic exchange of information among rural providers	23	60.5
Developed system for receipt of urgent information on 24-7 basis by rural providers	15	39.5
Conducted assessment of:		
education or training needs of emergency personnel	21	55.3
rural hospital EP	20	52.6
rural public health system EP	18	47.4

Almost half of involved state offices (47 percent) claimed involvement in assessment of rural public health system preparedness capabilities (Table 1), and it is clear that rural offices have contributed significant rural perspectives. One northeastern state director observed that the

original needs assessment that was rolled out wasn't friendly to rural areas – it was a huge book of forms for people to fill out, and rural areas don't really have staff that can do things like that. We've cued the state on how to better communicate and gather information from rural areas, like they should get information from clusters of towns, not individual towns.

In a midwestern state, the office, in conjunction with the state's strategic advisory planning committee, helped quantify the state's systems of care. The office proposed that a model be used to help organize information on needs and capacity for care within communities, and provided data to the state on location and capacity of first-responders. The state rural office of a mid-Atlantic state conducted a survey of providers to assess their capacity and needs in responding to bioterrorism and other emergency events. Results of the survey were presented to representatives of Federally Qualified Community Health Centers (FQHCs) and other primary care providers. The same office helped develop an on-line-based certificate program for providers, certifying qualifications in providing ER response skills. The office of a northeastern state reported participation in an assessment of the state's primary care resources. Two offices reported providing assistance to development of an online registry for health professionals. In one of these states, the registry is to be used by communities needing volunteers in emergencies. The state was also conducting a survey of laboratory professionals in the state to learn about job satisfaction and demographics of the population.

Improved communications was a goal of a number of activities undertaken by the state offices. Sixty-one percent of involved states assisted in development of capabilities for the electronic exchange of information among health care providers and public health officials serving rural areas (Table 1). Forty percent of rural offices were engaged in activities in support of development of a system for receipt of urgent reports or information by providers on a 24-hour-7-day basis.

Review of responses to the open-ended question about involvement in EP activities indicates that the state offices were involved in a number of activities not addressed by targeted questions of the survey. Not surprisingly, at least 38 percent of survey respondents were involved in the administration of a grant(s) or provision of technical assistance involving a rural client(s).¹⁷ While some of this involvement may very well reflect the state office's involvement in grant activity with dollars from the Flex Program, some of this involvement certainly reflects activities on grants funded with HRSA and CDC EP dollars. The rural health director of a midwestern state served on the state's emergency response planning committee, which oversees grant activities. The office director also serves on the hospital bioterrorism planning committee, and worked with the state hospital association on "how to integrate bioterrorism plans and funding with existing state funds. ... We deal with the county and local planning committees, and emergency management agencies in the counties..." Areas of EP involvement identified in interviews with respondents from other states included the following:

- pilot testing of training of hospital personnel with AHECs under the CDC grant;
- developing an EP training program for primary care health providers, nurses, and others;
- developing a training module for a variety of audiences, including hospitals and public, on dealing with infectious agents;
- planning regional training of hospital and FQHC personnel, including identification of training sites and use of satellite transmission in training;
- studying security issues related to water and wastewater projects; and
- surveying rural health clinics on their internet capabilities.

¹⁷ Thirty-eight percent indicated this involvement in response to the open-ended question about the office's involvement. Respondents were not necessarily asked directly about grant involvement, hence use of the qualifier, "at least."

Level of State Office Involvement and Resource Implications

The amounts of director and staff time devoted to EP activities are measures of involvement in EP activities. Although state offices are involved in a variety of activities related to EP, the director’s involvement has been limited in a number of states. Just over half of respondents to the questions on level of involvement indicated that the director spent no more than 5 percent of his/her time on EP activities (Table 2). Twenty-two percent of directors indicated involvement during the last year that totaled more than 10 percent of work time. The average office director spent about 9 percent of time on EP activities.

While many directors do not spend much time themselves on emergency preparedness activities, many delegate activities to staff. At least one full-time equivalent (FTE) staff

Table 2: Involvement of State Office Director and Staff in EP Activities		
Percent Time of Director	State Offices	
	Number	Percent
5 percent or less	19	51.4
> 5 percent, and 10 percent or less	10	27.0
More than 10 percent	8	21.6
Mean percent		8.6
Standard error of mean		1.6
Staff FTEs	Number	Percent
No staff involvement	9	24.3
Less than 1 FTE	15	40.5
1 or more FTEs	13	35.1

member was used on preparedness activities in 35 percent of state offices (Table 2). Forty-one percent of offices devoted some staff time, but less than one FTE, to

preparedness activities. No staff time was used on rural EP activities in 24 percent of state offices.

A single, “best” measure of resource use is one that combines director and staff inputs, recognizing that various activities may be most efficiently carried out when shared. “Minimal” resources -- defined as 5 percent or less of director time and no staff involvement -- were devoted to EP in five of the 37 states. In the five most involved states, more than 10 percent of the director’s time and at least one staff FTE was devoted to rural EP. Moderate resource use – between 5 and 10 percent of director time and some staff time, but less than 1 staff FTE -- characterizes the remaining 27 states.

For about 52 percent of responding states, their level of involvement in rural EP activities during the past year was “as expected” (Table 3). The level of effort was less than expected in 10 of the remaining states, and more than expected in eight states. Among those states where moderate-level resources were used in EP activities (measured in terms of director’s and staff time), over 75 percent indicated that their level of effort was as expected or was in excess of expectations. Of the eight state directors indicating that involvement exceeded expectations, seven states were moderate-level resource users. Resource use was categorized at the highest level *and* expectations were that more resources would have been used in only two of the 36 states for which resource use was reported.

State offices of rural health received little additional funding to support directly their involvement in EP activities. Funding had been received or anticipated in support of addressed activities in only seven states. Resource use was measured in six of these states: three states were among the top five with respect to resource use. Yet involvement in EP activities does not appear to be limited by lack of funding per se. Only eight of 31 directors of rural offices in states where additional funding was not received (26 percent) indicated that lack of funding restricted their ability to be more involved.

Table 3: Directors' Impressions Concerning the Level of Office Involvement in EP Activities		
	State Offices	
	Number	Percent
Level has exceeded expectations	8	21.1
Level was as expected	20	52.6
Level was less than expected	10	26.3

Perceptions of Emergency Preparedness Among State Office Directors

Office directors were asked to rate EP in rural areas of their states along five dimensions – two dimensions related to surveillance capacity, and three pertaining to training of emergency response personnel. A 5-point rating scale was used, with “5” indicating impressions of “highest” or “best.” Average scores ranged from 2.9 to 3.3 for the five EP dimensions (Table 4). Although differences in average scores are not statistically significant, it is useful to note differences in the distributions of scores. Of the five ratings requested, there was more support for the preparedness of surveillance capacity of rural public health departments than for the other EP dimensions. Forty percent of offices assigned either of the top two ratings to public health surveillance capacity -- more than for any other dimension of EP. About 23 percent graded this capacity in one of the two lowest categories of the five-point scale. This pattern suggests improvement in EP since ORHP’s first survey, to which 69 percent of state respondents believed that rural public health departments did not have adequate surveillance capacity.

By contrast, the dimension receiving the lowest ratings was training of EMS personnel. About 38 percent of state offices scored EMS training at the lowest or next-to-lowest

score (Table 4). But findings from the 2003 survey also suggest that some progress has been made in EP training of rural personnel. Rural health office directors appear to be more familiar with the status of training. In the recent survey, 31 percent of respondents did not provide an assessment of EMS training needs, and 24 percent did not answer the assessment questions on training needs of rural public health and hospital personnel. In the 2001 survey, by contrast, 38 percent of state office respondents did not know the extent of their state's bioterrorism preparedness needs. And as will be noted below, the need for EP training is among the most pressing rural EP problems from the perspective of the rural health directors.

Office directors were asked to identify “the most pressing need facing rural areas” with respect to EP. Many directors were not able to resist indicating more than one need. The most frequently identified needs – needs identified by more than 10 states – were improvements in communication (14 states), more resources for EP (13 states), and better training (11 states). A number of communication deficiencies were noted, including problems with getting emergency information to public health and primary care providers, and overcoming various barriers to communication, including the lack of access to high-speed internet and links to satellite communications. Rural health office directors cited needs for more funding and staffing – statewide, not necessarily in their office – to support EP activities, and there was the recognition that funds alone were not necessarily helpful. “You can put money out there sometimes, but unless there is enough money for another staff person, it doesn't necessarily help.” Several directors indicated that run-down facilities needed to be refurbished to ensure basic adequacy of infrastructure. A variety of types of training were cited as needed, including training of public health and EMS personnel. In addition, a number of directors recognized that general training for the rural public would also be of value.

Two additional needs were identified by office directors in at least five states. These included enhancements in surge capacity, especially on routes connected with urban population centers, and more collaboration among and within rural areas as a means of coordinating EP activities and efficiently meeting EP needs and concerns.

Table 4: State Office Directors' Impressions of EP in Rural Areas of Their State

Score	Percent of State Offices				
	Surveillance Capacity		Training of Rural Personnel		
	Rural Public Health Departments	Rural Hospitals	EMS	Public Health	Hospitals
5 (best)	14.3	0	3.5	3.1	3.1
4	25.7	27.8	31.0	31.3	34.4
3	37.1	44.4	27.6	56.3	31.3
2	17.1	25.0	27.6	9.4	25.0
1(worst)	5.7	2.8	10.3	0	6.3
Average score	3.3	3.0	2.9	3.3	3.1
95% confidence interval	2.7-3.8	2.6-3.4	2.4-3.5	2.9-3.7	2.5-3.6
Missing responses	7	6	13	10	10

Finally, respondents were asked for an overall assessment of progress towards EP in rural areas of their state since 2001. While two-thirds of responding offices indicated that progress was as expected, relatively more were pleased than displeased with overall progress (Table 5). The number of directors indicating that progress exceeded expectations (directors from 11 states) was five times as large as the number indicating that progress had lagged (directors from two states). Of particular interest is that perceptions of directors of state offices are consistent with objective measures of EP progress statewide. Perceptions are directly correlated with the change in TFAH scores between 2002 and 2003.¹⁸

¹⁸ The Pearson correlation between the TFAH state score and director's characterization of progress towards EP in rural areas is 0.486, $p < 0.009$.

Table 5: State Office Directors' Assessments of Progress Towards EP in Rural Areas of Their State		
	State Offices	
	Number	Percent
Progress exceeded expectations	11	28.2
Progress as expected	26	66.7
Progress less than expected	2	5.1

4. Discussion

Several lessons were learned from discussions with directors of state offices of rural health. First, most state offices have been involved in EP efforts, and the nature of involvement has varied considerably across the states. Planning, grant administration, and performing assessments were common activities, and responsibilities most commonly assumed by state office staff were in the areas of communication among providers and state and local health departments, and identification of training needs of rural providers, and hospital and EMS personnel.

Second, the extent of office involvement in EP activities varied across the states. In the typical office, the director spent between 5 and 10 percent of his/her time on EP-related activities, and other staff were involved but involvement was less than one FTE. An important caveat of this study is that this level of involvement (and areas of involvement noted above) does not measure all or even most of EP activities that affect rural areas. Our study was designed to measure the *rural office's* involvement, which is not necessarily the complete picture of oversight of rural EP activities. Many EP activities affecting rural areas could have been ongoing in the states, but not necessarily involving

the state rural health office and staff. We believe that current involvement by rural office staff, in terms of areas and extent of involvement continues to vary across the states.

Third, state rural office involvement in EP activities is not generally regarded by directors as limited by funding *per se*, but more by priorities in uses of their time, limits on their time, and how EP is organized in the state. The lesson is not that additional funding for EP involvement would be refused by the state offices, but that there is a willingness and ability on the part of rural office personnel to be more engaged in EP activities if needed or desired by other state personnel that are managing EP activities, and if competing uses of state office time in other activities could be re-prioritized.

Fourth, progress is needed in EP in rural areas. The average “grade” assigned to EP in rural areas of the state is equivalent to a “C.” Furthermore, EP in rural areas as perceived by the state directors is directly related to statewide progress as measured independently by other analysts. It has been observed that federal funding of EP now requires more evidence from the states of consensus between state and local public health officials for proposed uses of funds, and that the intent of these stipulations is to “shift the focus of funding to the *benefit achieved* and away from the question of which level of government is spending the dollars” (italics added).¹⁹ In this context, rural offices will be especially well-positioned to assume EP responsibilities in the future. Rural offices can render an attention “from the top” based on an understanding of rural issues and how investments in EP activities might enhance the broader rural health infrastructure.

¹⁹ *Ibid.*, Turnock, p. 30.