

# How Ready Are We?

## Measuring Montana's Statewide Public Health Preparedness

Sandra Kuntz  
Jane Smilie  
Janet Wang

In late fall 2001, a rural county sheriff attempted to contact the local health department after a citizen reported receiving a letter with white powder in the envelope. It was a weekend, and the health department message machine indicated the hours of business—8 a.m. to 5 p.m. Monday through Friday. The sheriff contacted his neighbor, a local public health nurse, who then tried to reach the county health officer. The health officer, who did not have a cell phone or a backup person assigned to his volunteer position, was hiking in a nearby national park for the weekend and was unavailable for three days.

At the time of this event, most tribal and local public health agencies lacked 24/7 capacity and few had protocols in place to deal with potential anthrax events or other public health emergencies. Emergency readiness (preparedness and response capacity) did not become an urgent issue requiring the attention of local, state, and national agencies until the September 11, 2001, attacks and subsequent anthrax events.

When Congressional funding for preparedness was allocated in 2002, the Montana Department of Public

Prevention (CDC) critical capacities and critical benchmarks and established basic preparedness key indicators for each focus area: preparedness/planning/readiness (Focus A), epidemiology/surveillance (Focus B), laboratory capacity (Focus C), communications/technology (Focus E), risk communication (Focus F), and education/training (Focus G).

### Academic-practice partnership

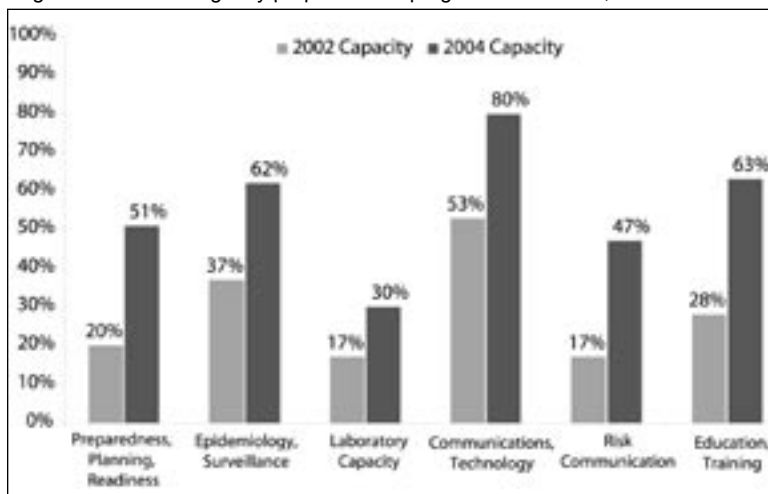
The need for public health systems research is well established in the literature. Bialek, for example, in an article in the *Journal of Public Health Management and Practice* (June 2000, p. 52), defines this field of inquiry as “using quantitative or qualitative methodology to examine the impact of the organization, financing, staffing, and management of systems on the access to, delivery, cost, outcomes, and quality of population-based services.” He goes on to call for practice-based research and examines the need for approaches to measure public health system performance. Conducting public health systems research to determine preparedness progress requires a systematic and preplanned approach. Although extensive, standardized guidance was provided by CDC as states applied for preparedness funding, specific measures for demonstrating critical capacity and critical benchmark outcomes were left to individual states.

To measure outcomes, DPHHS established an academic-practice partnership with Montana State University-Bozeman College of Nursing and endorsed a tool developed to gauge baseline preparedness (2002) and progress made (2004) during the first two years of funding. Designed as a report card, the Emergency Preparedness Scoring Matrix (EPSM) extrapolated a point-in-time measure (a single numerical score) and gave tribal and county agencies a baseline/starting point (2002) preparedness score. The initial data were collected through the CDC Public Health Emergency Preparedness Capacity Assessment modified for Montana by the Northwest Center for Public Health Practice at the University of Washington. Tribes and counties contracted with DPHHS to complete the assessment, as well as other preparedness deliverables. The state provided technical assistance workshops and individual assistance to tribes and counties throughout the assessment process.

### Local emergency preparedness progress

The scoring matrix for the EPSM assigned numerical values to selected preparedness indicators and repeated the same measures in 2004. Each participating county

Figure 1. Local emergency preparedness progress in Montana, 2002-2004



Health and Human Services (DPHHS) recognized the importance of directing efforts toward two important needs: 1. developing local basic infrastructure and 2. measuring outcomes related to the preparedness initiative. With limited funding for public health in rural states, establishing flexible and full use of available resources becomes an important component of infrastructure improvement. To identify basic infrastructure components crucial for rural public health preparedness, DPHHS leadership examined the Centers for Disease Control and

and tribe identified its capacity by self-report on specific indicators important for infrastructure improvement and emergency preparedness. The index of preparedness (the report card score) was based on a total of 50 points distributed among the six focus areas. Statewide results indicate that local jurisdictions doubled their overall capacity and improved to approximately 50 percent of basic preparedness capacity between 2002 and 2004. Figure 1 summarizes the change in statewide capacity in each focus area.

The results of this study indicate that tribes and counties are most prepared in communications/technology, with the statewide average equaling 80 percent in 2004, and least prepared in laboratory capacity, with the statewide average equaling just 30 percent of basic preparedness. The greatest improvement between 2002 and 2004 is seen in the area of education/training, with this focus area moving from 28 percent to 63 percent over the two-year period.

### Final thoughts and next steps

Capacity is the first critical element of preparedness. However, performance, during an actual or simulated event, is the next and more important indicator of progress toward ensuring the public's health during all stages of a natural or human-caused disaster. Although 24/7 system surveillance availability and coverage is a critical detail that has improved 57 percent since 2002, the effective use of this capacity (performance) during an event will, in the end, determine the strength and durability of the system improvements. Next steps should include the continued development of capacity (to reach 100 percent of basic preparedness in all areas) and performance tests and simulations to further develop the public health system's timely, reliable, and continuous all-hazard response. ■

### Authors

Sandra W. Kuntz, PhD, RN, is an assistant professor in the College of Nursing at Montana State University-Bozeman, Missoula Campus. Jane Smilie, MPH, is administrator of the Public Health and Safety Division, Montana Department of Public Health and Human Services. Janet Wang, MS, is a statistician in Fargo, North Dakota.

### Resources

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## Basic Preparedness Indicators

DPHHS focus leaders used the CDC critical capacities, and leaders' knowledge of rural public health needs, to establish the specific indicators and the numerical scoring for each indicator. Researchers entered the local agency responses into SPSS 11.0 to establish the preparedness score for each local and tribal health jurisdiction. The 42 indicators included the following:

### Preparedness/Planning/Readiness (Focus A)

- Agency staff includes an Emergency Response Coordinator.
- Strategic emergency preparedness planning is a part of agency activities.
- Emergency plan is in place; emergency staffing plan for 24/7 coverage.
- Job descriptions for emergency; written plans include roles and responsibilities.
- Emergency contact directory accessible 24/7; updated at least annually.
- Key personnel/external partner test: acknowledges contact within 30 minutes.
- Emergency plans tested through an exercise or real event.
- A local Strategic National Stockpile plan in place.

### Epidemiology/Surveillance (Focus B)

- System for 24/7 receipt, evaluation, and sending of reports is operational.
- Agency is strengthening relationship with reporting sources (physicians, hospitals).
- Protocols exist for initiating and conducting surveillance during an emergency.
- Surveillance system for notifiable conditions: assessed for timeliness, accuracy.
- Written protocols exist for investigating communicable disease, chemical threats, etc.
- Agency designates person to initiate and maintain contact with DPHHS.
- Risk/vulnerability assessments are conducted on food, water, air distribution systems.
- Agency has surge capacity and formal agreements with neighboring jurisdictions.

### Laboratory Capacity (Focus C)

- Level A lab is in the jurisdiction—can begin investigation within 4 hours of notification.
- Agency has an assigned, trained safety and dangerous-specimen officer.
- Written protocols exist for specimen handling and packaging.
- Specimen transport agreement exists with another agency or commercial courier.

### Communications/Technology (Focus E)

- Health alert operates 24/7; has send/receive potential; tested every 3 months.
- Agency personnel have access to personal computers; high-speed Internet connections.
- Staff are skilled with computer (research through Internet, download PDF files).
- Redundant communication capacity exists in the agency.
- Written computer policies exist; virus protection exists on all computers.
- Routine data backup schedule exists.

### Risk Communication (Focus F)

- A public information officer works for or is shared by the health department.
- Response/crisis communication plan addresses triage, responses for media information.
- Directory of emergency contact information for local media can be accessed 24/7.
- Information materials developed for Level A biological agents.

### Education/Training (Focus G)

- Staff education/training coordinator assigned and has written job description.
- Agency conducts an internal training needs assessment of employees.
- Education/training needs of employees undergo progress review at least once a year.
- Health department uses satellite program downlinks or Web streaming.