

Mobilize Public Health Infrastructure Now!

by Christine Craig and
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Two weeks after Hurricane Katrina slammed into the Gulf Coast, the public health emergency in New Orleans, in particular, has entered into Phase II—water-borne infectious diseases—as described by medical and sanitation infrastructure experts. Phase I is the initial medical emergency phase, and Phase III is the insect-borne disease phase.

The overall crisis is magnified by the lack of Federal intervention to rapidly move people to sanitary conditions. It was well known in advance that regional health infrastructure was poor. This coheres with the takedown of all aspects of the nationwide health infrastructure system over the past 30 years—community hospitals, public health staff, veterans care—all considered in ratios of personnel and facilities per 100,000 population.

Moreover, there was no pre-positioning of Federal public health forces. Only on Sept. 6, nine days after the hurricane struck, did Surgeon General Richard Carmona, the head of the national Public Health Service, say that 24 Federal public health units were “on their way.” The Department of Health and Human Services reports that it has shipped 90,000 doses of tetanus vaccine, 22,000 doses of hepatitis A vaccine, and 36,000 doses of hepatitis B vaccine to the Gulf Coast area for distribution.

Now, as emergency health-care workers finally move in and set up temporary treatment centers, the magnitude of the problem is coming to light.

Phase I. These are the acute, emergency, and chronic health problems seen initially in all facilities and makeshift settings. Injuries—lacerations, broken bones, crushed limbs—must be treated. Infection has often set in, and cases of gangrene are appearing, leading to hasty amputations. Many have animal bites from displaced pets. Pregnant women, some in labor, seek help. The elderly and others with chronic diseases are suffering the effects of missing their life-giving medications.

Many of this first wave require hospitalization and long-term care, but hospital capacity is low. HHS has identified only 2,600 beds in hospitals in the immediate area, and 40,000 nationwide. Between 1996 and 2002, 16% of all city public hospitals were closed, and 27% of all suburban hospitals shut.

Phase II. The second phase of the health catastrophe has appeared: the water-borne infectious diseases which are inev-

itable as humans are forced into prolonged contact with extremely toxic floodwaters, mixed with sewage, dead bodies, rotting animal carcasses, industrial spillage, and waste of all kinds.

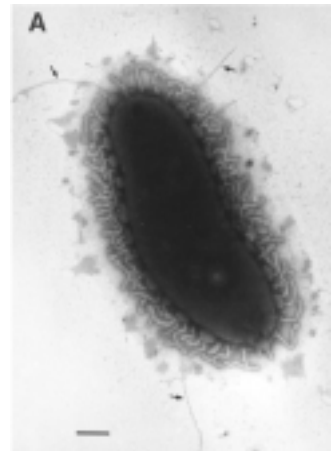
An estimated 90 million tons of solid waste were released into the flood waters in the city of New Orleans from 530 damaged sewage treatment plants. The water tests have seen coliform bacteria counts which are above what their tests can measure. In “residential” New Orleans, all tap water tested has at least 10 times the safe level of fecal coliforms, according to Steven Johnson, administrator of the Environmental Protection Agency. Some estimates have ranged up to 45,000 times safe levels in the flood waters.

In the first week of September, Dr. Julie Gerberding, director of the Centers for Disease Control, revealed that at least three people have already died from a bacterial infection pinpointed as *Vibrio vulnificus*, which is a relative of the Third World scourge, cholera. *V. vulnificus* is a saltwater pathogen found commonly in water and shellfish off the Gulf Coast. It can cause an acute infection if ingested, leading to diarrhea, vomiting, and cramping. Wounds can also become infected. Immuno-compromised victims are susceptible to systemic disease, leading to organ failure and death in many cases.

As the days pass, the potential for a massive outbreak of infectious, waterborne diseases increases. Dysentery was confirmed in Mississippi soon after the storm. Shigellosis, giardia, virulent forms of *E. coli*, infectious hepatitis, and norovirus, are just a few of the potential gastro-intestinal diseases whose agents are already present in the water. As long as people are exposed to the water, the threat of such outbreaks remains.

As people leave the flooded zones for temporary shelters, some of the same threats remain, because of overcrowding and unsanitary conditions, and outbreaks of new diseases are likely. Any prolonged “warehousing” of people increases the disease threat. Respiratory ailments are inevitable, and HIV and hepatitis are possibilities. The “normal” flu season is also pending. And a case of tuberculosis was recently reported at the Houston Astrodome.

It should be recalled that, under similar conditions of chaos and overcrowding during World War I, an avian flu virus jumped species, leading to a pandemic which killed tens of millions of people throughout the world. Given the highly virulent H5N1 flu virus evolving and already on the move



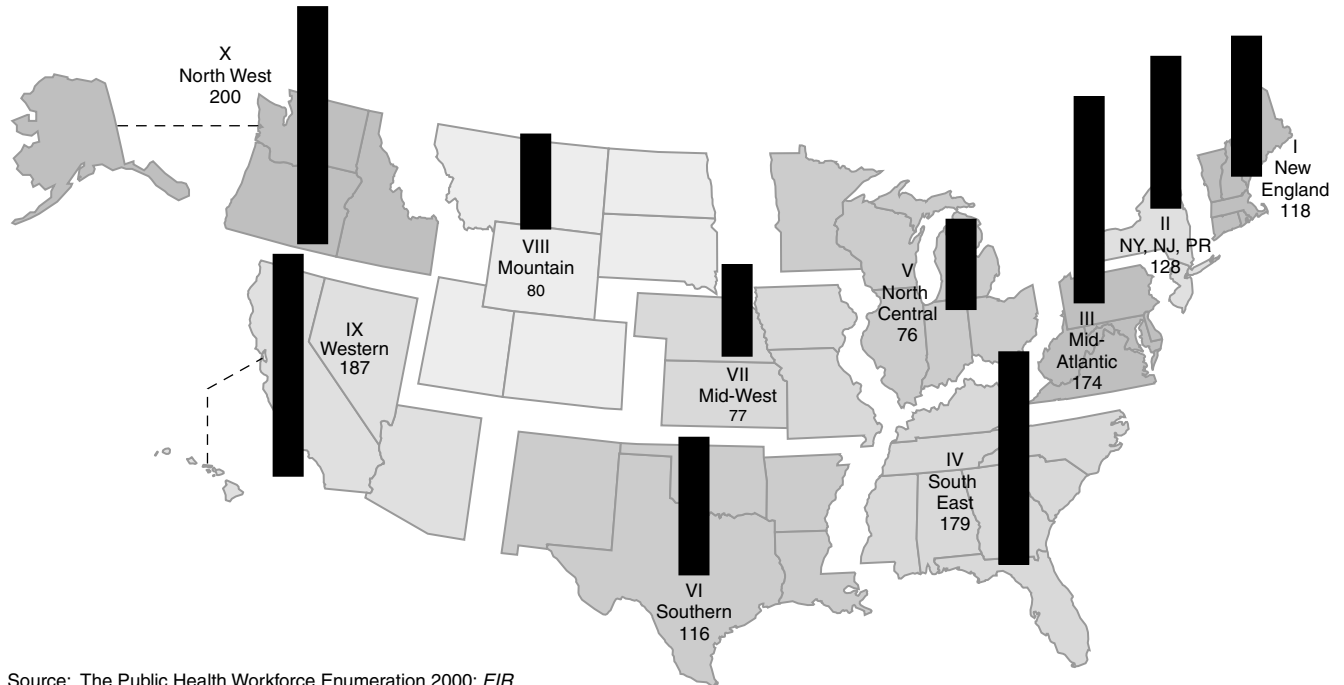
nwfsc.noaa.gov

Vibrio vulnificus

FIGURE 1

Public Health Workers per 100,000 Population, in 10 Federal Health Districts, 1999

(Number per 100,000 Population)



Source: The Public Health Workforce Enumeration 2000; *EIR*.

In the 1970s, there were over 200 public health workers per 100,000 population as the national average. By 1999, this had fallen to a national average of 156 per 100,000, with sharp disparities by region, as shown on this map. Public health workers refers to all kinds of functions, from epidemiology, to pest control, county nurses, technicians, etc.

among the migrating bird populations in Eurasia this Fall, a repeat of the 1918 catastrophe is not so far-fetched.

Phase III. Still ahead, are various insect-vector diseases. Within the next weeks, without human intervention on a large scale, mosquito-borne diseases will begin to appear, as mosquitoes breeding in the floodwaters spawn and spread.

There are a large variety of mosquitoes endemic to the Gulf Coast, seemingly one for every available ecological niche provided by Katrina's passing. These mosquitoes are capable of transmitting to humans several devastating encephalitis diseases harbored in local bird populations, notably West Nile virus, St. Louis encephalitis, and Eastern equine encephalitis. Without a massive mobilization to eradicate the emerging mosquito threat, a large-scale outbreak of one or more of these diseases could be inevitable.

What is needed is an all-out aerial assault on the mosquitoes and larvae with insecticide sprays. Former head of the CDC Division of Vector-Borne Infectious Diseases, Dr. Duane Gubler, reported that surveillance of mosquito densities and the pathogens they carry, must take place before areas can be targeted for spraying. But, as he pointed out, Mississippi had virtually no mosquito-eradication infrastructure in place *before* the hurricane. It remains to be seen whether the

means and manpower for surveillance and targeted spraying can be mustered. Before the paradigm-shift of the approach to public health, the solution would have been clear: massive spraying of the coastal flooded areas with DDT, followed by targeted applications with the more toxic insecticides now in use, like pyrethroids.

Crash Effort: Public Health Infrastructure

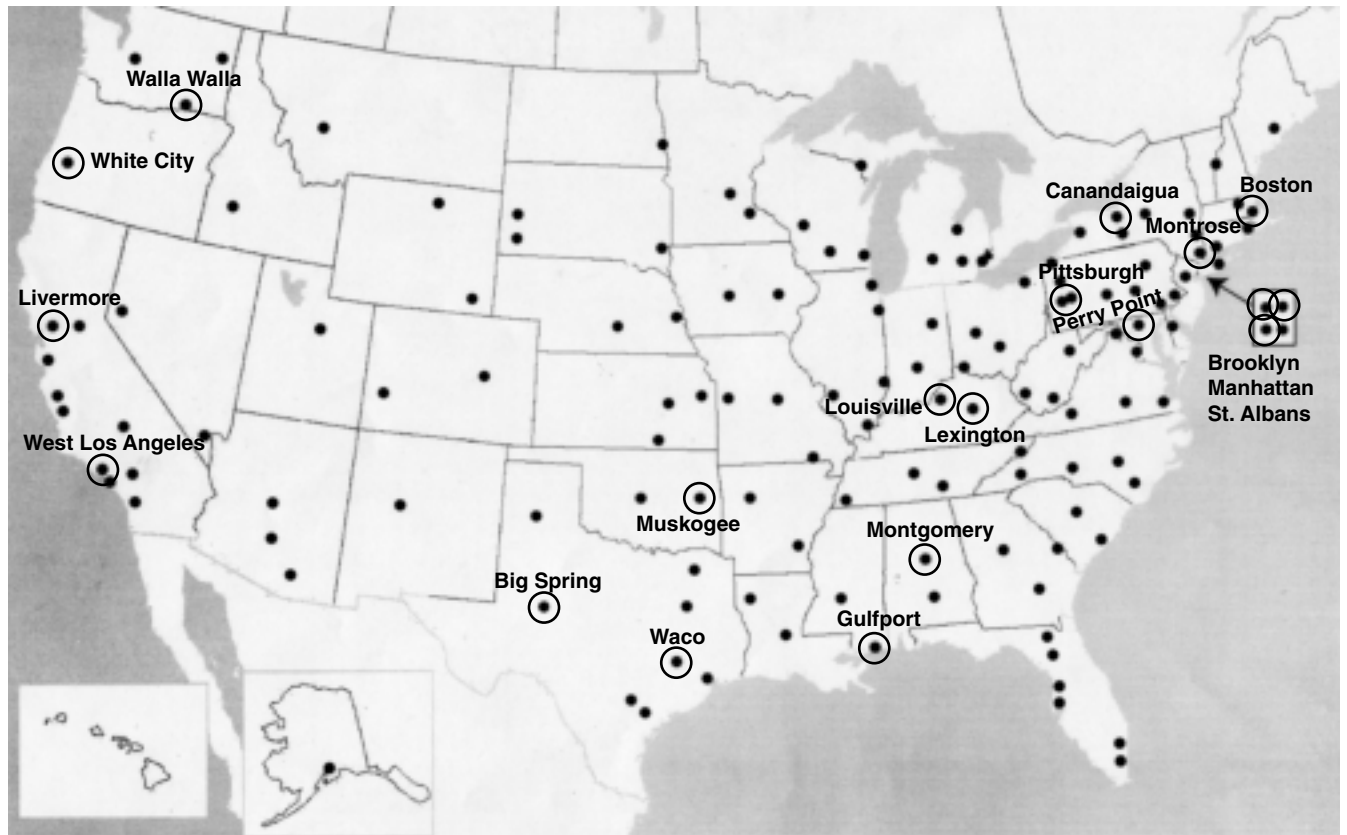
In the context of mustering emergency health logistics for storm zone victims, Congress must act to restore needed ratios of medical and public health infrastructure of all kinds, nationwide, *to have the in-depth capacity to deal with surge needs*. Right now, this means no cuts or shutdowns in any health-care systems—Veterans, public hospitals, community clinics, and so on. Two maps here illustrate the principle involved.

Figure 1 gives data showing the disparities and decline in ratios of public health workers (Federal, state, local combined) per 100,000 population, since the 1970s. This must be corrected.

Figure 2 shows the Bush Administration-proposals for shutting 19 major Veterans hospitals. Any closure must be cancelled; instead, the system must be expanded.

FIGURE 2

Cancel Bush Administration's Plan to Shut 19 (Circled) Veterans Hospitals—Four in Gulf States



Source: Department of Veterans Affairs, CARES Decision, May 2004, Office of the Secretary; www.va.gov.

Shown (dots) are most of the nation's 160 major hospitals, known as Veterans Affairs Medical Centers. The 19 named sites are on the short list under active consideration for Administration decision by February 2006, to close them, relocate their services to a different site, or otherwise downscale, including for real estate gains. This process was begun during the first George W. Bush Administration, and euphemistically termed, "Capital Asset Realignment for Enhanced Services" (CARES). After the scandal of Administration cover-up of FY 2005 underfunding of Vets' medical services, Sen. Kay Bailey Hutchison (R-Tex.), in July called for stopping closure of any VA hospital. Post-Katrina, these VA facilities are needed more than ever.



The VA Medical Center in Waco, Texas, on a 123-acre site, is part of a 36-facility complex called the Central Texas Veterans Health Care system. Waco VA hospital is targeted by the Bush Administration for closure. On Sept. 6, Rep. Chet Edwards (D-Tex.), one of the strongest backers of keeping Waco hospital open, reported that he is working to open up beds at the facility, and at the VA hospital in nearby Temple, for Katrina victims. The Waco VA Medical Center operates 346 acute inpatient beds, 191 psychiatry beds, and 15 beds for rehabilitation of the blind; with an average daily census of 206 patients.