George R. Flores, MD, MPH
Presentation to the Little Hoover Commission
Public Hearing on California's Public Health System
Sacramento, June 27, 2002

"Health care is vital to all of us some of the time, but public health is vital to all of us all of the time"

-C. Everett Koop, MD

Summary

Re-building California's public health system requires political commitment, new and sustained resources, diverse community involvement, and an "all-hazards" design. Success in doing so will gain not only health protection from terrorism, but also lead to greater economy and efficiency in the care delivery system and improve overall health of the population.

As the Commission pointed out in its report, "Be Prepared: Getting Ready for New and Uncertain Dangers", all emergencies are local.[1] Re-building California's public health system must not be limited to preparation for a single terrorist event, but have as its goal all that protects the public's health on a daily basis. Re-building also must maintain a sharp focus on local governments and the communities they serve. That is where the battle to preserve health is won or lost.

The threat of terrorism has exposed weaknesses that scream for attention: Vast rural areas are without capacity to deal with threats to agriculture or to people. Large numbers of Californians are without health insurance coverage. Population diversity and reduction of disparities in health status demand attention to community involvement, cultural competency, and a highly trained and representative workforce.

We may be most vulnerable to biological terrorism at our border with Mexico because of the potential for rapid spread of contagious disease, and hindrances to detection. And the ability of hospitals and emergency providers to absorb an influx of newly ill or injured persons is questioned on a daily basis. The need to be better prepared is urgent and compelling.

Public health is at a crossroads of daunting challenge and unprecedented opportunity. The recent infusion of state and federal funds addressing public health infrastructure and bioterrorism preparedness provides the expectation and the means for re-building to begin. The key is to proceed quickly but smartly, leveraging resources both human and fiscal, plugging gaps but with an eye on the future, and to sustain these efforts evaluating and refining our achievement as we proceed.

Re-build to Prepare For All Threats/ Hazards

Each day, thousands of Californians fall victim to preventable disease or injury, at an enormous cost to families and to the economy, through lost productivity and added burden to an already overburdened health care delivery system. The threats are not only anthrax, smallpox, and poison gas. The real and present dangers include chronic conditions such as heart disease, cancer and diabetes, which account for 70% of all deaths and one third of the years of potential productive life lost. Today's greatest threats to public health also include preventable injuries, which is the leading killer of youth. Our Public health infrastructure is our first and in many cases only line of defense against these threats.[2] The infusion of new federal and state resources for public health preparedness opens the door to the opportunity to finally build the kind of system that we need to address the threats of today, terrorism and trauma, acute illness and chronic disease.

Use New Framework for Assuring the Health of the Public

The need to re-engineer our nation's public health system was advanced by the Institute of Medicine in 1988 in The Future of Public Health in which it identified assessment, assurance and policy development as the core functions of public health.[3] Now the IOM is taking up an effort to define a new framework for assuring the health of the public in the 21st century. The overarching goal of the study will be to describe a new, more inclusive framework for assuring population-level health that can be effectively communicated to and acted upon by diverse communities. In support of that overall goal, the study will:

- enhance understanding about the core purposes, functions and roles of public health-and other relevant sectors-in improving health outcomes for all;
- crystallize knowledge about the conditions under which improvements in population-level health occurs and how to affect those conditions;
- set an agenda for research that informs efforts to improve population-level health outcomes that has scientific credibility yet fits the complex and adaptive systems in which population-level health occurs;
- provide evidence-based recommendations for improving practice and the broader conditions that affect population-level health outcomes;
- build the capacity and the workforce needed to support improvements in population-level health
- inform more strategic investments by grant makers for population-level health improvement; and,
- promote engagement in the civic work of building healthier communities by a broad array of sectors, organizations and people.

The new report will be published later this year. I can assure you as a member of the committee which is issuing this report, that the basic framework for re-building public health is being addressed in the Commission's deliberations.

However, I recommend that your Commission review and consider the IOM report's findings and recommendations when it becomes available later in your process.

Re-build to Overcome the Risk of Insufficient Infrastructure

The ability of the public health system to deal with new and emerging threats, as well as established problems, begins with capacity. Clearly, until September 11, too little funding and political support had been invested in public health to keep pace with contemporary problems much less future threats. Suddenly, unprecedented sums are being directed at public health. The greatest risk is that adding expectations and responsibilities to public health will hasten the collapse of an already insufficient infrastructure. The structure of public health needs re-engineering. There is no defined scale for staffing, programs, or size of local health departments. Investment in the new public health must be a smart investment. Although every community, regardless of population should have the benefits of protection, how public health is organized for economy and efficiency matters. Now that there is the opportunity for re-building, regional approaches and collaboration between jurisdictions, should be promoted. For example, the Association of Bay Area Health Officials have collaborated on a number of service projects. Counties on the central coast have a joint immunization registry. Solano and Napa Counties share lab services and a managed care MediCal program. Perhaps small public health labs should be regionalized to take advantage of rapid transportation and electronic communication, when economies of scale and 24/7 availability of a highly trained and practiced workforce are so important.

Re-engineering applies also to how we work. Categorical funding, the lifeblood of public health, dictates "silo" approaches to program function and service delivery. Consequently, clients are often met by workers who speak of only one disease or issue, relevant to their needs, or not. A recent community survey in Chula Vista counted multiple neighborhood workers from different programs. One family had contact with over twenty workers. [4] Clearly, there is a need for cross-training and multi-tasking, for efficiency as well as to take advantage of building trust relationships in high need neighborhoods. Cross-training and cross-utilization of the workforce is compelling for bio-terrorism/ public health preparedness. An "all-hazards" approach requires versatility and availability not achievable with exclusively designated staff. Blended funding and grant funding requirements that specify inter-program linkages add to consumer relevance and to program sustainability.

Community is an Essential Partner in Public Health Preparedness

Now that the State and Local jurisdictions have received instructions and are busy at work on how to claim over $100 million in federal funds for public health preparedness, it is clear that community, collaboration, and communication are

keys to reaching the required benchmarks and critical capacities. Planning, surveillance, lab capacity, public and professional information and training all require community involvement, interagency collaboration, and attention to effective communication.

Partnerships between health departments and communities can transform a collection of categorical government programs into networks of public and private players, all of which participate in protecting against disease and promoting population health.[5] San Diego County's early development of public health preparedness grew out of a close partnership between local government, military, academia, the local medical society, hospital association, law enforcement, schools, community clinics, and others. The first focus after September 11 was on collaborative communication. Interagency planning, professional training and public education grew out of this.

Community engagement is as essential for preparedness and response as it is for assessment and planning. Government alone cannot protect the population from all hazards. From private sector physicians and hospitals who report suspicious diseases and treat the injured, to schools and community organizations who train people about how to maintain health, to media outlets who tell people what to do in the event of an emergency, there is a great public-private interdependence for the protection of the public's health.

An "all hazards" approach to health improvement (which will relieve stress on an overburdened system) must recognize that many diseases and injuries have social and behavioral risk factors in common, and that community involvement plays a major role in elimination of these. The system must go beyond the medical model of specific disease prevention, and focus also on cross-cutting determinants of health status such as income, social support, nutrition, education, civic participation, and purposeful environment. Efforts should integrate multiple approaches (i.e. advocacy, policy education, incentives) and multiple levels of influence (e.g. schools, government, worksites, churches, families). Finally, linkages between public health and other disciplines (e.g. social services, law enforcement, planning, etc) are crucial for engagement and sustainability.

Disparities in Health Status Exacerbate Risk to the Public; Leverage Diversity to Solve Problems

"Either we are all protected or we are all at risk"

- Jeff Koplin, MD

The security of the nation's most populous state is burdened with disparities in health status. The care needs of persons who lack health insurance stress a fragile and overburdened safety net of emergency rooms and not for profit

hospitals. This is the same safety net that the entire community needs in the event of a disaster. Immigrants, unembraced by government programs, have no one to turn to when confronted with contagious disease, leading to outbreaks. Cycles of poverty and low education underlie lifetimes of poor health outcomes. Populations whose health suffers due to difficulty in communication, or from distrust, discrimination, environmental risks or unsafe workplaces, experience even less opportunity for advancement, and greater likelihood of increased medical and social costs.

California's tremendous diversity, on the other hand, is an invaluable asset which can be leveraged to solve problems and improve public health preparedness. Diverse communities, working with public health, play an essential role in addressing disparities in health. Opportunity structures which include access to healthy and affordable food, safe space for recreation and exercise, and transportation for work and school, can be built through effective community based initiatives in partnership with government public health. [6] Special interests representing seniors, ethnic and racial groups, youth, faith organizations, and even lifestyles each have much to contribute in terms of insight and energy, to promote health for their respective populations. Investment in policies and programs which promote economic and community development, focus on a broader set of policies than only health care, create sustained partnerships and institutional change which favors elimination of barriers, and increased opportunity can lead to healthier communities. Language and culture appropriate health care, and helpful community outreach by trusted colleagues are important interventions. Equally important is early involvement in collaborative community assessment and planning, with face-to-face dialogue, in order to build trust and assure engagement. Measures such as these must be taken to reduce disparities in health, relieve the public health system, and most effectively address threats.

Communication is better understood, and instruction is more likely to be followed, when delivered in the language of choice. Public health protection requires language and cultural proficiency to deal effectively with circumstances when failure to understand disease symptoms of a highly contagious nature, or what to do about it, can result in widespread disaster.

Using language and culture appropriate messaging will reach wider audiences, and find more acceptance. Given the opportunity of new resources flowing for the purpose of protecting the public's health, the perfect opportunity is presented to hire talented people who represent and know California's diversity. Further, care must be taken to assure inclusion of diverse perspectives and true community engagement in all phases of planning and development for the re-engineered public health system.

The Risk is Great at our Southern Border

The California-Mexico border is uniquely vulnerable to biological terrorism. This is the busiest international border on the planet, with over one million crossings each week. The incubation period of infectious agents likely to be used in an attack, and the mass and dispersion of persons who might carry the infection and Mexico's relative disadvantage in capacity to diagnose, treat, and communicate, combine to pose a tremendous challenge to early detection and control. Underlying this scenario is an already high rate of infectious disease along the border, due to population mobility, limited access to care, and poor environmental conditions. Food and water-borne illness such as hepatitis A, shigella, and typhoid fever; vaccine preventable diseases such as measles, mumps, and diptheria; tuberculosis and zoonotic diseases such as brucellosis, cysticercosis, and rabies already occur at higher rates in border counties than in the rest of the country. [7]

Cross-border collaboration on matters of health has long been a topic of meetings between officials from both sides of the border. Recognition of the threat to the health of the entire bi-national border region, and the disparities in resources between the two countries, has resulted in federal, state and local government accords about communicable disease control such as tuberculosis, and environmental protection. There needs to be an acceleration of agreements between the countries which would require rapid bi-national communication between health authorities of information of a crucial nature for the protection of population health. In addition, bureaucratic barriers which currently disallow sharing public resources across the border must be modified to control the spread of disease or respond to disaster.

One popular concept, which has yet to receive needed federal government sponsorship, is that of a bi-national public health facility located right on the US-Mexico border at San Ysidro. Appropriately staffed and equipped, this facility would serve as an information and referral center for travelers, a transfer point for ambulances, a classroom and consultation center for health care providers, and a command center for the cooperative management of cross-border disease control and emergencies.

Weathering the Surge is a Daily Risk: Re-engineering the Care Delivery System is Necessary

Hospitals have been given benchmarks by federal government to "prepare a regional plan to accommodate 500 casualties in an emergency." However, surge capacity, is tested on a daily basis in many areas of the state. Hospitals are hard-pressed to provide specifics about degrees of accommodation or elasticity. Different circumstances require different responses. The way that hospitals handle smallpox is very different than that for anthrax, and more different still for

victims of an airliner crash. Each circumstance requires different kinds of equipment, facility, conditions and staff skills. Also variable is the staff availability, given the nature of disaster. Some acute care hospitals can absorb a number of new inpatients, provided there is sufficient notice, resources, and justification. A recent survey of San Diego area hospitals revealed that 4 of the 16 hospitals responding could accommodate 50 or more patients within 8 hours.

Disaster Medical Assistance Teams (DMAT) can set up temporary field hospitals within hours. Even government facilities, such as navy hospital ships, might be pressed into service if circumstances and authorization dictate. The greater problem is that some communities are less able to accommodate surge than others. Los Angeles and other large urban areas already face tremendous demand on emergency delivery systems on a daily basis, and especially on weekends when trauma increases. Flu season taxes the systems' ability to care for the surge in persons with respiratory illness.

In 320 California hospitals it was found that critically ill and urgent emergency department visits rose by 59% and 36% respectively, from 1990 to 1999. During the same period, the number of emergency departments declined by 12%. [8] One observer notes that the apparent redundancy once present in Los Angeles County's hospital system allowed it to accommodate the casualties from several major earthquakes. That redundancy is no longer present.

The reasons underlying the decline in surge capacity are varied and complex. Frequently mentioned as causes for "saturation" of hospital emergency departments are: lack of other options for uncompensated care for the large and growing number of uninsured persons; declining availability of medical doctors willing to serve for emergency backup duty; dearth of treatment access for the mentally ill, alcoholics, and other substance users; large numbers of immigrants and others unfamiliar, unable, or unwilling to use access points into the health care system other than emergency departments; and shortages in nurse staffing to manage patients on inpatient floors.

The distribution of hospitals, trauma facilities, clinics and medical staff has also been questioned. Although rapid transportation and communication systems may compensate for distance, some populations such as those in remote rural areas and those without transportation, are at a distinct disadvantage. Despite the enormous costs and constraints involved, it is necessary that the state's care delivery system be re-engineered with a systematic plan to accommodate patient care needs on a daily, as well as disaster basis.

Rural Areas Require Special Consideration

Rural communities are less likely to have the availability and sophistication of resources available in large urban areas. Volunteers often staff fire and first (emergency) response. Training is difficult to maintain, and must be repeated regularly in order to capture the ever changing pool of volunteers, and to refresh less frequently used skills. Some communities are turning to internet-based systems to guide information exchange and response. Community clinics are an important resource to rural areas, as collection points, and triage centers, and for information and referral. Training and equipping rural health providers and facilities to a level which improves their ability to handle time-critical events such as stroke, heart problems, and trauma, will also benefit their surge capacity, and coordination with the referral network. Needs go beyond training for disaster, as rural infrastructure, linkages to resources, and staff recruitment and retention all deserve attention. Public health departments in less populated rural areas often lack the resources to provide the full measure of service available in urban areas. Consequently, there is a need to consider partnerships with neighboring counties, or other capable health service entities, to assure that every community is protected.

Faced with the death of resources, many rural areas have developed strong supportive networks. [9] Volunteerism, neighbor helping neighbor, shared childcare, transportation, exchange of goods, and greater self-sufficiency for minor illness all characterize rural resilience. Still, people living in remote areas stand a great risk of being cut-off from medical services in the event of a disaster as has been seen during earthquakes, fires, and floods. Persons with high medical needs such as those dependent on medical devices or critical daily medication are particularly vulnerable.

References

1. *Be Prepared: Getting Ready for New and Uncertain Dangers,* State of California Little Hoover Commission, January, 2002

2. *Public Health's Infrastructure: Every Health Department Fully Prepared; Every Community Better Protected.* A status report prepared for the Appropriations Committee of the US Senate by the Department of Health and Human Services, Centers for Disease Control and Prevention, 2001

3. The Future of Public Health, Institute of Medicine, National Academy Press, 1988

4. Personal communication with Jean Buchanan, PHN, South Bay Partnership for the Public's Health, San Diego County Health and Human Services Agency, 2002

5. *Civic Partnerships with Health Departments Can Strengthen Public Health in America*. Turning Point: Collaboration for a New Century in Public Health. Lewin Group for the WK Kellogg Foundation, 2001

6. *Community Based Public Health: Policy & Practice*. Partnership for the Public's Health. The California Endowment and the Public Health Institute, 2001

7. *Public Health Preparedness and Emergency Response in Our Bi-national Region*. San Diego Dialogue Forum Fronterizo, UC San Diego, May, 2002

8. Lambe S., et.al. Trends in the Use and Capacity of California Emergency Departments 1990-1999. Annals of Emergency Medicine, 2002, Apr;39(4):389-396

9. Verheij, R.A. Explaining Urban-Rural Variations in Health: A Review of Interactions Between Individual and Environment. Social Science & Medicine 42;6 (1996):923-935