



County of Yolo

HEALTH DEPARTMENT

Bette G. Hinton, M.D.
Director – Health Officer

20 Cottonwood Street, Woodland, CA 95695
PHONE - (530) 666-8645 FAX - (530) 666-8674

TO: The Honorable Lynnel Pollock, Chair
and Members of the Board of Supervisors

FROM: Bette G. Hinton, M.D., Director/Health Officer
Virginia S. Hinshaw, Provost and Executive Vice Chancellor, UC Davis

DATE: January 28, 2003

SUBJECT: Western National Center for Biodefense and Emerging Diseases

RECOMMENDED ACTION

That your Board:

1. Endorse the proposal of the University of California to apply for funding from the National Institutes of Health's National Institute for Allergy and Infectious Diseases (NIH/NIAID) to establish a National Biocontainment Laboratory (NBL) on the UC Davis campus.
2. Direct County staff to collaborate with UC Davis in its ongoing efforts to ensure that the appropriate security and biosafety measures are taken; that local, regional and statewide public health efforts derive the maximum possible benefit of this facility; and to assure that the interests of Yolo County are taken into account in the planning, environmental review, construction, and operation of the facility.

REASON FOR RECOMMENDED ACTION

Funding for the NBL will be awarded under a national, peer-reviewed scientific competition that will also take into account evidence of community support for the project. The NBL will serve as an essential public health asset and a critical resource to protect local, regional, statewide and Western United States' citizens from both naturally occurring and intentionally introduced infectious diseases.

BACKGROUND

Summary:

The University of California proposes to compete for a federal contract to construct a National Biocontainment Laboratory at its Davis campus. The laboratory would be a critical element of evolving national, state, and regional efforts to address biodefense and emerging infectious diseases by filling gaps in public health infrastructure, enhancing emergency preparedness, and improving the training of medical professionals. Moreover, this laboratory would provide the facilities necessary for the University and its research partners from the public and private sectors to accelerate development of a new generation of vaccines, therapeutics, and diagnostics for use against infectious disease threats—whether these diseases occur naturally or are intentionally introduced by bioterrorists. The facility would also support the establishment of a Regional Center for Excellence in Biodefense and Emerging Diseases.

National Context

The events of September 11th and the subsequent anthrax attacks led federal policy makers to recognize what researchers and public-health officials throughout the nation had long known: The United States is under-prepared to address threats from emerging diseases and bioterrorism.

The research capacity and public health infrastructure needed to study, develop, and implement prevention and treatment of diseases resulting from natural outbreaks or terrorist attacks are currently limited in scope and insufficiently funded. In addition to these limitations, the specialized facilities needed for such efforts are insufficient in physical capacity and inaccessible on a timely basis to the majority of the nation.

In February 2002, the NIH/NIAID developed, in consultation with a blue-ribbon panel, a strategic plan for biodefense research to accomplish short- and long-term goals aimed at protecting the United States against bioterrorism. The NIH/NIAID strategic plan emphasizes research that will lead to the development of products, such as diagnostic tools, therapeutics and vaccines. In anticipation of significant federal funding for this purpose, the NIH/NIAID has called for proposals to:

- Create regional centers of excellence in research on bioterrorism and emerging diseases; and
- Construct up to two national biocontainment laboratories and four to six smaller regional facilities to facilitate the regional centers of excellence and improve the capacity of the nation's public health infrastructure to address major outbreaks of serious infectious diseases, whether they are introduced naturally or by terrorists.

Researchers and other experts have long recognized the particular need for high biocontainment facilities in the Midwest and West. A national biocontainment laboratory in the West would provide western regional public health officials and researchers the facility and tools they need

for rapid diagnosis of serious disease outbreaks that may occur in the western region. It would also support critically needed research on infectious disease organisms, including such recently emerging threats as the West Nile virus, in the safest possible environment.

California Context

The need for enhanced infectious disease research and diagnostic work is felt throughout the United States, but is perhaps most urgent in California in view of several distinctive features of our state:

- Located on the Pacific Rim, California is particularly vulnerable to the introduction of infectious diseases because of the extensive movement of people and goods across our borders.
- California is home to the nation's largest agricultural economy—risks to the state's food animals and crops are a major economic concern for the nation.
- California's expanding population is currently facing increasing threats from emerging diseases—West Nile virus recently appeared in the state, and California has the highest rate of hantavirus pulmonary syndrome of any state in the nation.
- California's soils contain anthrax, which caused a disease outbreak in our cattle just last year.

While some of the world's most dangerous diseases threaten or are already present in our state, there are no laboratories on the West Coast capable of handling and diagnosing many the agents that cause them. Currently, West Coast researchers and public health officials must send certain of the most serious suspected infectious agents to high containment facilities at the Centers for Disease Control and Prevention in Atlanta for diagnosis, causing delays that could be critical in the event of an outbreak.

The University's Response

To ensure a rapid, informed response to public health challenges on the West Coast, the University of California is submitting proposals to the National Institutes of Health (NIH) for funding to build a National Biocontainment Laboratory and establish a Regional Center for Excellence for Research in Biodefense and Emerging Diseases. Successful outcomes for these proposals will provide the tools that Western region public health officials and researchers need to diagnose and study any disease-causing agent, known or unknown, in a safe and timely manner.

A National Biocontainment Laboratory. The core of the proposed National Biocontainment Laboratory would be what is known as a Biosafety Level 4 (BSL 4) laboratory. It would be equipped with state-of-the-art technology for the safe handling of the microorganisms that cause diseases such as hantavirus, Lyme disease, plague, various strains of influenza, smallpox,

anthrax, foot and mouth disease and West Nile virus. The lab would be capable of handling any infectious disease safely.

The University's Role. There are several considerations that make the campus of a major research university a desirable location for a BSL 4 laboratory. These laboratories are tools. Research scientists use them to development treatments and vaccines. Public health officials and scientists use them to diagnose disease outbreaks and develop new diagnostic techniques. In either case, it is important for the laboratories to be located close to the places researchers live and work. It is important for the sake of maintaining the integrity of laboratory, biosafety, and security equipment that the laboratories are in continual use, as they would be in a research university context, rather than "mothballed" until they are needed for diagnostic purposes in a public health emergency. Finally it is important that the laboratories be in a place that is readily accessible during a public health crisis—not on a military base, for example, which would likely shut down to outsiders during a terrorist incident. For these reasons, the university expects many of its competitors for these funds to be major research universities elsewhere in the United States.

UC Davis' Role. UC Davis, with its unusual combination of strengths in the life sciences and its proximity to the center of the state's emergency service networks, is in a strong position to help meet the nation's and the state's need for BSL 4 laboratories. With a School of Medicine and a School of Veterinary Medicine renowned for expertise in infectious diseases, one of the nation's leading colleges of agricultural and environmental sciences, a national primate research center and one of the country's preeminent veterinary diagnostic research labs, UC Davis has the research assets and expertise to enable researchers and public health officials to make optimal use of a high-containment research facility. The campus's proximity to state emergency-services officials in Sacramento will aid in coordination of the laboratory's response to bio-emergencies. This unique combination of expertise, research assets and relationships with state emergency-response officials make the campus an excellent location for a West Coast high-containment laboratory.

Regional Center for Excellence in Biodefense and Emerging Diseases. The University of California is seeking NIH/NIAID funding for a major research initiative in biodefense and emerging diseases. UC Davis is coordinating a coalition of researchers from throughout NIAID's Region IX, which includes California, Arizona, Hawaii, Nevada and the six U.S. Associated Pacific Jurisdictions. Partners in the proposed Regional Center of Excellence include UC, Stanford University, The Scripps Research Institute, Lawrence Livermore National Laboratory and Los Alamos National Laboratory. The agenda of this coalition includes research that will lead to development of new tools to fight disease and career development programs that will increase the number of investigators who are equipped to address scientific problems related to biodefense and emerging diseases. The BSL 4 facilities at the core of the national biocontainment facility would support this research effort.

FISCAL IMPACT

Establishment of this facility may save the County future expenditures for health care for infectious disease diagnosis and prevention. Fees charged to the University will cover the expense for inspection of this lab by County Environmental Health.

OTHER AGENCY INVOLVEMENT

The federal government has proposed funding for NIH/NIAID to establish up to two NBL in recognition of the national needs identified above. UC Davis has been discussing the potential for locating the National Biocontainment Laboratory on campus with local elected officials, public safety, emergency response and public health officials and state and federal legislators for several months. The state Department of Health Services and the state Office of Emergency Services have identified the urgent need for such a facility in California, as have the California Conference of Local Health Officers, the Health Officers Association of California, and the County Health Executives of California.