

MINUTES OF THE SENATE PUBLIC HEALTH AND WELFARE COMMITTEE

The meeting was called to order by Chairperson Susan Wagle at 1:30 p.m. on January 27, 2004 in Room 231-N of the Capitol.

All members were present except:
Senator Nick Jordan- excused

Committee staff present:
Ms. Emalene Correll, Legislative Research
Mr. Norm Furse, Revisor of Statutes
Mrs. Diana Lee, Revisor of Statutes
Ms. Margaret Cianciarulo, Committee Secretary

Conferees appearing before the committee:
Mr. Richard Morrissey, Interim Director for the Division of Health & Executive Director of the Bioterrorism Program

Others attending:
Please See Attached List.

Handouts

Upon calling the meeting to order, Chairperson Wagle referred the Committee to a response letter from the Legislative Division of Post Audit to Senator Salmans, who had asked Ms. Clarke during the January 22, 2004 meeting, if she could provide a breakdown on the costs of Medicaid low birthweight babies who died during their first year of life versus costs for Medicaid low birthweight babies who survived their first year of life. A copy of this letter is (Attachment 1) attached hereto and incorporated into the Minutes as referenced.

Approval of Minutes

The Chair then announced that the minutes of January 15, 20, 21, and 22, 2004 had been distributed to each Committee member. She asked that they notify Ms. Cianciarulo with their comments and if none are received by the end of the day Friday, January 30, 2004, the above minutes would stand approved.

Overview - "Status of Emergency Preparedness Relating to Health"

The Chair then introduced Mr. Richard Morrissey, Interim Director for the Division of Health and Executive Director of Bioterrorism Program, who provided an update of the Kansas Bioterrorism Program. Mr. Morrissey would be presenting the overview for Secretary Bremby, who was ill. A copy of the overview is (Attachment 2) attached hereto and incorporated into the Minutes as referenced.

Highlights included:

- 1) Information on how the program is funded (ex. Two grants from the Federal Department of Health and Human Services);
- 2) An update on the Kansas Public Health Bioterrorism Program (ex. Completed its second comprehensive CDC site visit, a listing of accomplishments from the review such as the Public Health Information Exchange (PHIX), and the toll-free hotline for disease reporting);
- 3) An update on the Kansas Hospital Bioterrorism Program (ex. Dollars provided to improve surge capacity statewide, and how the dollars were spent such as on airborne isolation equipment);

CONTINUATION SHEET

MINUTES OF THE SENATE PUBLIC HEALTH AND WELFARE COMMITTEE at 1:30 p.m. on January 27, 2004 in Room 231-N of the Capitol.

Page 2

4) A response to the Trust for America's Health Report, a national non-profit public health advisory group that rated Kansas with a score of 3 out of a possible 10. Mr. Morrissey listed the ten criteria and explained why our ratings were so low; and

5) An update on emerging new diseases referring to a landmark report, "Emerging Infections: Microbial Threats to Health in the United States, offering the consensus of a wide-ranging group of specialists that America needed a wake up call. (A short summary of the report describing 13 factors that account for new or enhanced microbial threats and the key recommendations of the committee is attached to his testimony.)

The Chair thanked Mr. Morrissey for his presentation then asked the Committee for questions or comments. Senators Salmans, Wagle, Haley, and Barnett and Ms. Correll asked a range of questions from are we current in the analysis of the bird disease and concerning the SARS disease, are we standardizing across the board; regarding the public health advocacy group: do you have ongoing communication with them, did you know you were being evaluated, did they ask you for information, and are they in any way federally funded; regarding vaccinations: is the smallpox vaccination available, with the mention of the window of exposure and immunization is there a central location to move the vaccination, and the national objective is 10 days; does our low ranking help us get more funding; as legislatures, what can we do with communications to the public; transferring testing from KDHE to Ag, to why did the regional map not designate a lead county for the grouping of Wyandotte, Leavenworth, Johnson, Douglas, Franklin, and Miami.

Adjournment

As there was no further business, the meeting adjourned. The time was 2:30 p.m.

The next meeting is scheduled for Wednesday, January 28, 2004.



LEGISLATURE OF KANSAS
LEGISLATIVE DIVISION OF POST AUDIT

800 SOUTHWEST JACKSON STREET, SUITE 1200
TOPEKA, KANSAS 66612-2212
TELEPHONE (785) 296-3792
FAX (785) 296-4482
E-MAIL: lpa@lpa.state.ks.us

January 22, 2004

Senator Salmans
Capitol, Room 422-S
Topeka, KS 66612

Dear Senator Salmans,

At the Public Health and Welfare committee meeting today, you asked me if I could provide a breakdown on the costs of Medicaid low birthweight babies who died during their first year of life versus costs for Medicaid low birthweight babies who survived their first year of life. To do that comparison, I'd need death certificate data which we didn't have as part of the audit. As a result, I'm unable to provide that breakdown.

Perhaps the Kansas Department of Health and Environment and Medicaid officials would be able to provide some insight on your question. If I can be of any further help, please let me know.

Sincerely,

Chris Clarke
Principal Auditor

cc: Senator Wagle, Chair, Public Health and Welfare Committee

Senate Public Health & Welfare Committee
Attachment 1
Date: January 27, 2004

This activity facilitates resource sharing and collaboration toward improved levels of protection for Kansans statewide. (Map of the regions attached.)

All local health departments have developed local Bioterrorism response plans and smallpox response plans, which were tested and evaluated during six regional exercises in October 2003. KDHE staff continue to provide ongoing technical assistance to evolve these plans, building toward all-hazards response capacity statewide.

Kansas implemented its Smallpox Vaccination Program during 2002, which resulted in the creation of 46 smallpox response teams in 23 counties as of May 2003. Staff are working to further develop these teams to provide broad-based response capability statewide.

The Public Health Information Exchange (PHIX) system has enabled secure, two-way communication for exchange of alert messaging among public health, hospital, and laboratory officials, as well as partners in law enforcement, military, emergency management, and EMS. All 105 Kansas counties participate in PHIX, which is noted by the CDC as a model communications system.

Through the CDC funding, the state public health laboratory has been upgraded and can now return confirmatory testing results on possible biological agents much more safely, securely, and rapidly. During federal fiscal year 2003, the laboratory will perform similar upgrades to facilitate testing of hazardous chemical agents. In addition, the Kansas State University laboratory was upgraded to a biosafety level three lab to be used for surge capacity.

To facilitate 24/7 disease reporting, a toll-free telephone hotline has been established, a phone bank of volunteer staff has been recruited and trained to respond to calls from the public during widespread outbreaks, and 36 counties (containing approximately 90 percent of the state's population) now submit information regarding cases of reportable disease through HAWK, a secure, Web-based disease surveillance reporting system. HAWK is partially funded through CDC grant funds.

Training in critical areas such as epidemiology, outbreak surveillance, and risk communications has been provided to local public health officials throughout the state. Additional training will continue throughout the next year.

The state's level of preparedness to receive and distribute the Strategic National Stockpile (SNS), which contains pharmaceuticals and durable medical equipment, in the event of a public health emergency continues to improve. During the recent CDC site visit, Kansas' rating increased from Amber to Amber Plus, which qualifies our state to conduct a full-scale SNS exercise. (The State has only two more steps, Green Minus and then, Green, to reach the final step.)

**Status of Emergency Preparedness
Relating to Public Health
Presented to
Senate Health and Welfare Committee
By
Roderick L. Bremby
Secretary
Kansas Department of Health and Environment**

January 27, 2004

Introduction

The Kansas Bioterrorism Program is funded through two grants from the federal Department of Health and Human Services.

The first grant received by KDHE is the Public Health Preparedness and Response to Bioterrorism Cooperative Agreement, administered at the federal level by the Centers for Disease Control and Prevention (CDC). Kansas was first awarded CDC funding for this program in 1999, and received approximately \$850,000 yearly through 2001. In 2002, a total of \$12.3 million was awarded to Kansas, with the 2003 award totaling just over \$12 million.

The second grant is administered at the federal level by the Health Resources and Services Administration (HRSA), which is intended to build hospital capacity to prepare for and respond to a Bioterrorism event. In 2002, Kansas received \$1.3 million from HRSA; in 2003, Kansas was awarded \$5.1 million through this program.

Kansas Public Health Bioterrorism Program Update

KDHE recently completed its second comprehensive CDC site visit to review progress made in building public health capacity to prepare for and respond to a Bioterrorism event. Numerous accomplishments were noted by the CDC, including the following program highlights:

Kansas is considered a leader regarding its relationship between the state health agency (KDHE) and the Kansas Association of Local Health Departments (KALHD). Through ongoing collaboration, \$5,350,000 in grant funds were directly passed through to local health departments in Kansas during 2002. An additional \$6,125,000 (51% of the total grant award) are being directly distributed to local health departments in the current federal fiscal year.

KDHE and KALHD worked jointly to develop and implement a public health regionalization project through the CDC funds. To date, 104 Kansas counties are participating and have formed 15 regions for Bioterrorism preparedness and response.

*Senate Public Health + Welfare Committee
Attachment 2
1
Date: January 27, 2004*

Kansas Hospital Bioterrorism Program Update

KDHE has worked closely with the Kansas Hospital Association to improve levels of preparedness in hospitals throughout the state. In federal fiscal year 2002, \$945,000 was provided to hospital regions and in federal fiscal year 2003, \$4,200,000 will be provided directly to hospitals to improve surge capacity statewide.

Program Highlights:

The grant funds provided directly to the six hospital regions in federal fiscal year 2002 were used to develop regional hospital Bioterrorism plans and to purchase equipment, supplies, and training to implement these plans. (Map of the hospital regions is attached.)

In federal fiscal year 2003, the focus for the program is on supporting improved Bioterrorism preparedness and response capabilities in 128 community hospitals, with \$3,910,000 in grant funds earmarked for this purpose.

More than 90% of the state's community hospitals now use the Public Health Information Exchange (PHIX) system as a means of communication with public health and laboratory officials, including KDHE.

During the recent CDC site visit, the collaboration between the two arms - the public health and hospital programs - of the Kansas Bioterrorism Program was noted as being very strong and commendable. Federal funding is being used to upgrade hospital laboratories, building local capacity to enhance statewide testing capabilities.

A long-standing issue in Kansas involves the lack of hospitals with adequate airborne isolation facilities. HRSA funds are being used to purchase airborne isolation equipment, which resulted in the availability of at least one airborne isolation room in each community hospital. This equipment is also being used for infectious tuberculosis patients.

Response to the Trust for America's Health Report

In December 2003, Trust for America's Health (TFAH), a national non-profit organization, released a report titled "Ready or Not? Protecting the Public's Health in the Age of Bioterrorism." The report attempts to identify strengths and weaknesses of state Bioterrorism programs throughout the U.S., using 10 key indicators as performance benchmarks. The indicators chosen by TFAH were not standards established by the federal funders of bioterrorism grants nor were they standards established by any organization as a benchmark for state program evaluation. In addition, states were not consulted in the surveying process or asked to respond to the indicators. The criterion for making each determination is largely unknown. Finally, the TFAH indicators were not the same indicators used by the federal funding agency to evaluate success of State agency programs.

Each state received a score of 0 to 10 (with 10 being highest) based upon its perceived conformance with each indicator. Based upon the TFAH study for the report, which was concluded in August 2003, Kansas scored a "3," receiving credit for spending 90 percent or more of the federal fiscal year 2002 federal Bioterrorism preparedness funding, having at least one laboratory able to handle biological agents, and having an initial state Bioterrorism plan.

If the TFAH today undertook a more comprehensive, in-depth review, the Kansas Bioterrorism Program would score a 6 or 7 on the 10-point scale, placing us in the upper half of all state scores. KDHE offers the following clarifications about each of the seven indicators it was deemed to have not met.

Passed at least 50 percent of federal funds to local health departments: The Kansas Bioterrorism Program has made a continued commitment to provide funding directly to local health departments as part of the cooperative funding agreement with CDC. The amount of funding shared with local health departments was nearly 50 percent in the first year and in the current funding cycle, the Kansas Bioterrorism Program passed 51 percent of federal funds directly to local health departments. Kansas did not receive a point for this indicator, but should.

State spending on public health was increased or was maintained: Like many other states, Kansas has reduced state spending to make up budget shortfalls over the past several years. Although no federal Bioterrorism funds have been used in place of state funds, Kansas did not receive a point for this indicator.

Sufficient workers to distribute Strategic National Stockpile supplies: The criteria for this indicator have been regarded by most states as being unrealistic. There is a nationwide shortage of qualified health workers, and Kansas is not exempt from this shortage. The TFAH report uses the CDC's "Green" rated states as a threshold; however, this rating can only be achieved after CDC has conducted an exercise with a state at the CDC's discretion. As previously noted, the CDC continues to be pleased with progress made in SNS planning at the state and local levels by the Kansas Bioterrorism Program, and has recently increased our state's rating from Amber to Amber Plus, which qualifies our state for a full-scale SNS exercise. We are well on our way to achieving Green status (two steps from our current status) within the coming months.

Has enough bioterrorism-capable laboratories to handle a public health emergency: The Kansas Bioterrorism Program has developed working relationships with no less than 42 sentinel laboratories during the past two years. Additionally, KDHE and Kansas State University have upgraded their laboratories to safely and securely provide confirmatory clinical testing services. The TFAH report did not quantify how many Bioterrorism-capable laboratories are considered to be "enough," and did not provide the criteria used for determining this indicator. The Kansas Bioterrorism Program has worked diligently over the past two years in this area, and has far surpassed any reasonable expectation for

increasing its laboratory capacity and readiness. Kansas did not receive a point for this indicator, but should.

No more than 3 counties without continuous high-speed Internet connections to the national Health Alert Network (HAN): The 99 Kansas local health departments serving all 105 Kansas counties are linked to the Health Alert Network and have 24/7 pager coverage. The basis for this indicator may be misleading, as Kansas counties have highly variable population density; some are mostly rural, while others are more urbanized. There is also a wide variation in the availability of high-speed Internet access, especially in rural areas. A lack of high-speed Internet access in a single county containing a high proportion of the state's population, for example, could be considered a more serious deficiency than a lack of this same access in four counties with a substantially smaller combined population. Provision of high-speed Internet access remains a priority for the Kansas Bioterrorism Program, which has allocated resources to help all local health departments acquire continuous high-speed Internet access where available. The Program will continue to help local health departments overcome infrastructure barriers.

The CDC uses "90 percent of population covered" as their critical benchmark for HAN, a measure considered more appropriate for purposes of assuring public health and safety. Had this been the standard for the TFAH report, Kansas should have received a point for this indicator.

Has pandemic flu plan: Contrary to the TFAH report findings, Kansas has in fact developed a draft plan to respond to a pandemic influenza outbreak. KDHE is consulting with CDC on the status of the draft plan, and should have received a point for this indicator.

State-specific information about SARS was available during the SARS epidemic: KDHE published news releases to increase awareness and provide health education information about SARS during the global epidemic earlier this year, and did provide links to the CDC SARS page on the agency's Web site. In addition, the KDHE Epidemiologic Services Section provided clinical information packets about SARS to hospitals and private physicians. Kansas should have received a point for this indicator.

Emerging New Diseases

In 1992, the Institute of Medicine (IOM) published a landmark report, *Emerging Infections: Microbial Threats to Health in the United States*, offering the consensus of a wide-ranging group of specialists that America needed a wakeup call. In March 2003, the IOM published the successor to that report, *Microbial Threats to Health: Emergence, Detection, and Response*. Attached is a short summary of this report describing 13 factors that account for new or enhanced microbial threats and the key recommendations of the committee. One of the recommendations relates to the need to bolster the public health infrastructure:


“U.S. federal, state, and local governments should direct the appropriate resources to rebuild and sustain the public health capacity necessary to respond to microbial threats to health, both naturally occurring and intentional. Expanded prevention and control measures must be executed by an adequately trained and competent workforce. Examples of such measures include surveillance; laboratory capacity; epidemiological, statistical, and communication skills; and systems to ensure the rapid utility and sharing of information.”


In the past year, KDHE has responded to real threats from West Nile Virus, Hantavirus, Monkeypox, and SARS. More recently, KDHE has responded to a shortage of influenza vaccine by coordinating a statewide effort to target available vaccine to those at greatest risk. The agency is now monitoring the response to “mad cow” disease in the northwestern United States, and is actively reaching out to the medical community to provide education and training on SARS, which has re-appeared on the world stage.

Alongside our partners in public health, KDHE is moving forward with expanded disease prevention and control measures recommended by the IOM. However, work in preparing the Kansas public health infrastructure to respond to emerging infectious diseases is a multi-year effort that has yet to reach its completion.

Conclusion

The Kansas Bioterrorism Program continues to make great strides toward improving capabilities at all levels to prepare for and respond to public health emergency situations. Much progress has been made, and good momentum has been built to continue improvements at all levels, statewide. As noted earlier, the CDC continues to provide positive feedback about the accomplishments made in Bioterrorism planning and preparedness at all levels in Kansas, and KDHE believes the state is much better protected now than at any time in the past. Through continued collaboration with our local, state, and federal partners, progress will continue toward achieving the goals set forth by the federal funding agency – the Department of Health and Human Services – and meeting the State’s preparedness needs.

Hospital Regions 

Lead County 

Regional Coordinators

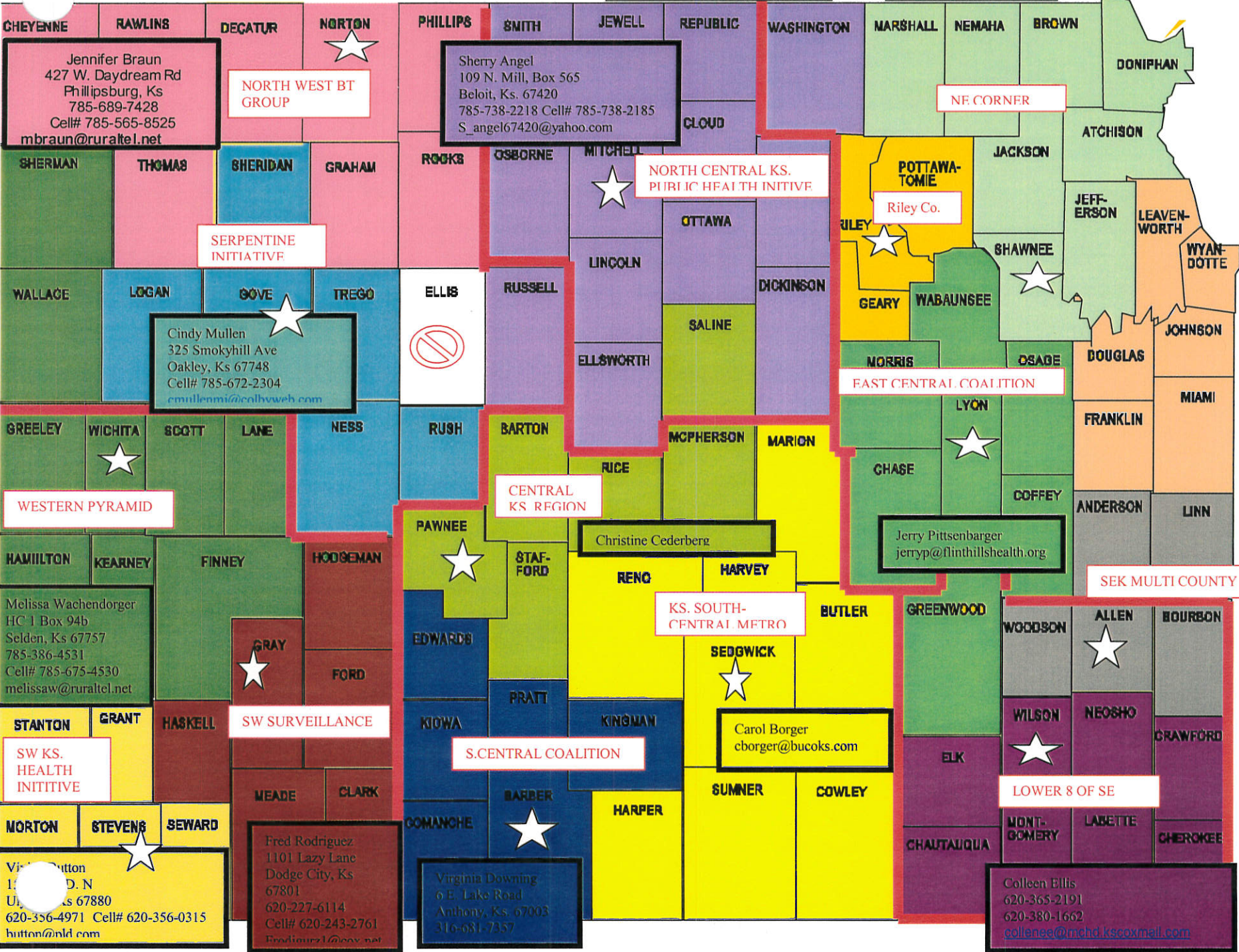
BT Regions

2-7

B
I
O
T
E
R
R
I
S
M

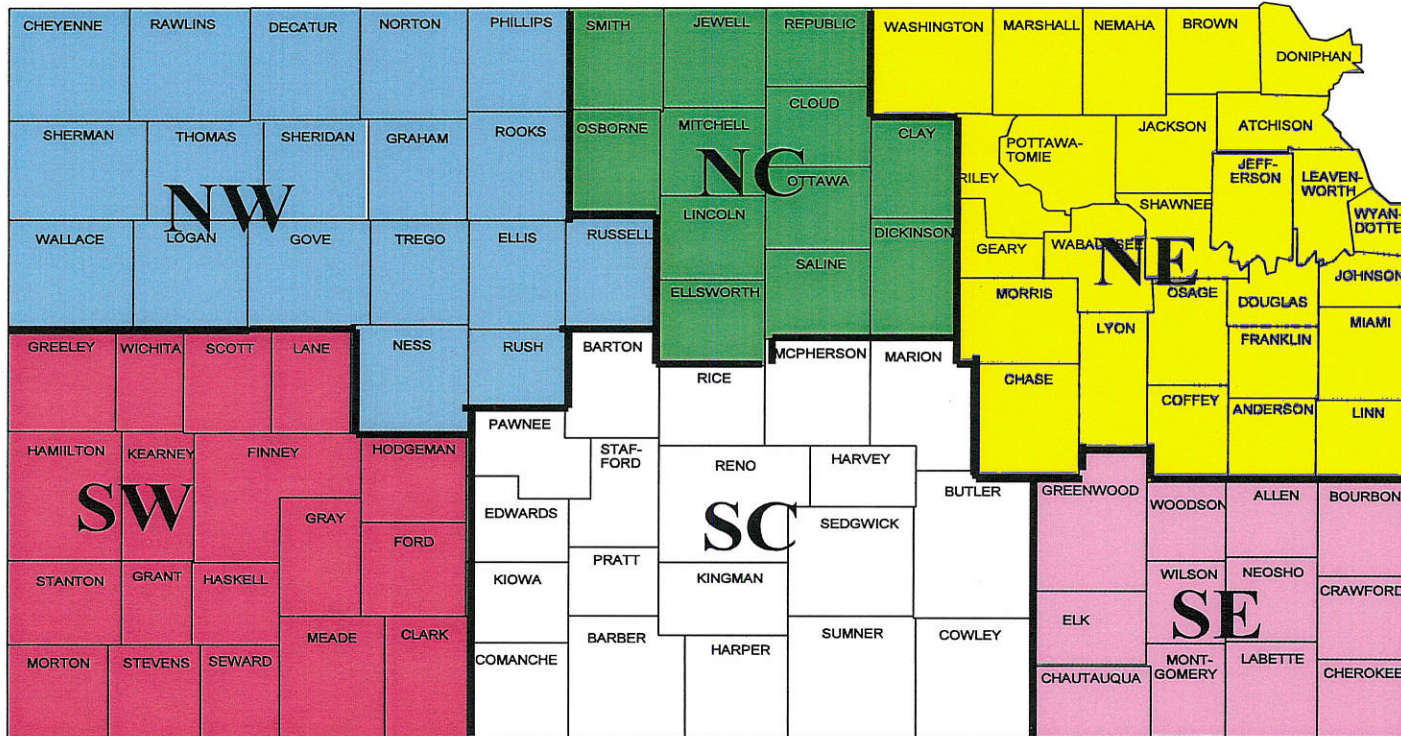
R
E
G
I
O
N
A
L

M
A
P



Bioterrorism Hospital Preparedness Regions 2004

2-8



INSTITUTE OF MEDICINE

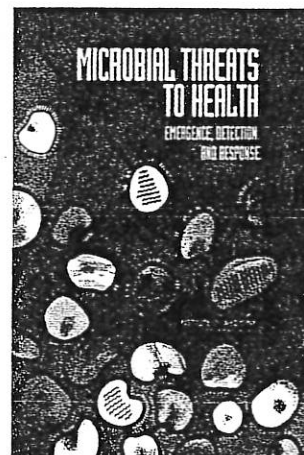
Shaping the Future for Health

MICROBIAL THREATS TO HEALTH: EMERGENCE, DETECTION, AND RESPONSE

Infectious diseases continue to be a serious burden around the world, in developing and industrialized countries alike. Whether naturally occurring or intentionally inflicted, infections can cause illness, disability, and death in individuals while disrupting whole populations, economies, and governments. And because national borders offer trivial impediment to such threats, especially in the highly interconnected and readily traversed “global village” of our time, one nation’s problem soon becomes every nation’s problem. The United States has shown leadership in the past by strengthening its own and others’ capacities to deal with infectious diseases, but the present reality nevertheless is that public health and medical communities are inadequately prepared. We must do more to improve our ability to prevent, detect, and control emerging—as well as resurging—microbial threats to health.

In 1992, the Institute of Medicine (IOM) published a landmark report, *Emerging Infections: Microbial Threats to Health in the United States*, offering the consensus of a wide-ranging group of specialists that America needed a wake-up call. The report maintained that infectious diseases were a tangible threat to our security and that we might soon regret the comfort and complacency that had overtaken us with the advent of wonder drugs and vaccines. That study was a stimulus for numerous other studies and policy actions, many of them in response to the harsh realities of the spread of HIV/AIDS, the emergence of new or previously unrecognized diseases, the resurgence of old diseases, and the looming failure of scientific research and technological innovation in antimicrobial drugs to keep up with the constant evolution of microbial resistance.

The present report is the successor to the 1992 IOM document, and it observes that a decade later the impact of infectious diseases on the United States has only increased. Illnesses unknown in this country only a few years ago, such as West Nile encephalitis and hantavirus pulmonary syndrome, have emerged to kill hundreds of Americans—and the long-term consequences for survivors of



...in the highly interconnected and readily traversed “global village” of our time, one nation’s problem soon becomes every nation’s problem.

...the impact of infectious diseases on the United States has only increased.

... *known* diseases that were thought to be virtually eradicated in the United States, such as measles, pertussis, and malaria, still reappear, occasionally in epidemic proportions.

these illnesses are as yet unknown. Meanwhile, *known* diseases that were thought to be virtually eradicated in the United States, such as measles, pertussis, and malaria, still reappear, occasionally in epidemic proportions. Moreover, gains made against sexually transmitted diseases have recently slowed or reversed in certain population groups.

Compounding the danger posed by these infectious diseases are other important trends: the continuing increase in antimicrobial resistance, which has become pervasive not only in the United States but worldwide; the country's diminished capacity to recognize and respond to microbial threats—particularly those originating elsewhere; and the intentional use of biological agents to do harm.

Thus conclude the report's authors, the Committee on Emerging Microbial Threats to Health in the 21st Century, who were charged by IOM in 2001 to: review the current state of knowledge on the emergence of infectious diseases; assess the capacity of the United States to detect and respond to microbial threats to health; and identify potential challenges and opportunities for public health actions, both global and domestic, to strengthen capabilities in prevention, detection, and response.

In other words, the committee's assignment was to set forth the principal factors involved in the threats' emergence, take stock of existing measures for dealing with them, and specify what further investments of fiscal and political capital are needed. The committee's subsequent conclusions and recommendations are summarized below.

FACTORS IN EMERGENCE

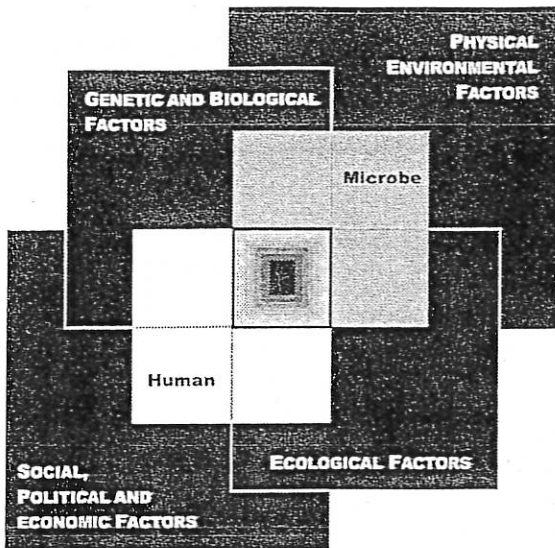
It's conceivable, in fact, that in certain places microbial "perfect storms" could occur—convergences of all the factors—and unlike meteorological perfect storms, the events would not be on the order of once-in-a-century, but frequent.

Thirteen individual factors—some reflecting the ways of nature, most of them reflecting our ways of life—account for new or enhanced microbial threats. Any of these factors alone can trigger problems, but their convergence creates especially high-risk environments where infectious diseases may readily emerge, or re-emerge, afflicting individuals and societies alike while posing particular challenges for the medical and public health communities that must face these situations at the front lines. It's conceivable, in fact, that in certain places microbial "perfect storms" could occur—convergences of several factors—and unlike meteorological perfect storms, the events would not be on the order of once-in-a-century, but frequent.

The individual factors in emergence examined in this report are these:

Microbial Adaptation and Change. The tremendous evolutionary potential of microbes makes them adept at developing resistance to even the most potent drug therapies and complicates attempts at creating effective vaccines.

Human Vulnerability. Susceptibility to infection can result when normal defense mechanisms are impaired by causes such as genetically inherited traits and



The Convergence Model.
 At the center of the model is a box representing the convergence of factors leading to the emergence of an infectious disease. The interior of the box is a gradient flowing from white to black; the white outer edges represent what is known about the factors in emergence, and the black center represents the unknown (similar to the theoretical construct of the "black box" with its unknown constituents and means of operation). Interlocking with the center box are the two focal players in a microbial threat to health—the human and the microbe. The microbe–host interaction is influenced by the interlocking domains of the determinants of the emergence of infection: genetic and biological factors; physical environmental factors; ecological factors; and social, political, and economic factors.

malnutrition. Susceptibility can also result from antimicrobial resistance induced by the promiscuous use of antibiotics.

Climate and Weather. Climate can directly affect disease transmission through its impacts on the replication, movement, and evolution of microbes and vectors; climate can also operate indirectly through its effects on ecology and human behavior.

Changing Ecosystems. Altered environments have immense influence on the transmission of microbial agents, whether waterborne, airborne, foodborne, or vector-borne.

Economic Development and Land Use. Commercial activities can have intended or unintended impacts on the environment. For example, new or previously unknown infectious diseases have emerged from the increased human contact with animal reservoirs that resulted from changing land-use patterns.

Human Demographics And Behavior. Infectious diseases can result from individuals' activities that involve exposure to microbial pathogens or simply from the increased probability of infectious disease as populations grow and people come into closer contact.

Technology and Industry. Advances in medical technologies, such as blood transfusions and organ transplants, have created new pathways for the spread of certain infections. Meanwhile, the use of antibiotics in food-product animals has heightened antimicrobial resistance.

International Travel and Commerce. The rapid and virtually unrestricted transport of humans, animals, foods, and other goods can lead to the broad dissemination of pathogens and their vectors throughout the world.

Susceptibility can also result from antimicrobial resistance induced by the promiscuous use of antibiotics.

Breakdown of Public Health Measures. In many places, the lack of basics such as potable water or sanitation contributes to infectious diseases. But similar effects can also occur elsewhere from inadequate vaccine supplies, low immunization rates, or a paucity of expertise—say, in vector control.

Poverty and Social Inequality. Mortality from infectious diseases is closely correlated with global inequities in income. Economic trends affect not only the individuals at risk but also the structure and availability of public health institutions necessary to reduce risks.

Displacement caused by war and the fairly consistent sequelae of malnutrition from famine can contribute significantly to the emergence and spread of infectious diseases.

War and Famine. Displacement caused by war and the fairly consistent sequelae of malnutrition from famine can contribute significantly to the emergence and spread of infectious diseases.

Lack of Political Will. It is not only the governments in the regions of highest disease prevalence that must commit themselves, but also the leaders of affluent regions that ultimately share the same global microbial landscape.

Intent To Harm. The world today is vulnerable to the threat of deliberate biological attacks that can cause large numbers of deaths and widespread social disruption. The likelihood of such events, in fact, is high, and public health systems and health care providers must be prepared to address them.

DETECTION AND RESPONSE: ADDRESSING THE THREATS

Who should do what, and why, to reduce the rising infectious disease rates prompted by the above emergence factors both singly and in combination? The committee responded with an array of conclusions and recommendations for specific actions, actors, and coordinators to fortify or replace current policies and infrastructural elements that the committee deemed inadequate.

Among the committee's most prominent recommendations are the following two, based on the inevitability that an effective national response to infectious diseases, given their highly transportable nature, must be a global response:

The United States should seek to enhance the global capacity for response to infectious disease threats, focusing in particular on threats in the developing world.

The United States should seek to enhance the global capacity for response to infectious disease threats, focusing in particular on threats in the developing world. Efforts should be coordinated by key international agencies such as the World Health Organization (WHO); based in appropriate U.S. federal agencies (the Centers for Disease Control and Prevention [CDC], the Department of Defense [DOD], the National Institutes of Health [NIH], the Agency for International Development [USAID], and the Department of Agriculture [USDA], for example); and include collaboration with private-sector organizations and foundations. Investments should take the form of financial and technical assistance, operational research, en-

hanced surveillance, and efforts to share both knowledge and best public health practices across national boundaries.

The United States should take a leadership role in promoting the implementation of a comprehensive system of surveillance for global infectious diseases that builds on the current global capacity of infectious disease monitoring. To this end, CDC should enhance its regional infectious disease surveillance; DOD should expand and increase in number its Global Emerging Infections Surveillance overseas program sites; and NIH should increase its global surveillance research. In addition, CDC, DOD, and NIH should intensify their efforts to develop and arrange for distribution of laboratory diagnostic reagents needed for global surveillance, transferring technology to other nations where feasible to ensure self-sufficiency and sustainable surveillance capacity. Overseas activities should be coordinated by a single federal agency such as CDC. Sustainable progress and ultimate success in these efforts will require health agencies to broaden partnerships to include nonhealth agencies and institutions such as the World Bank.

Overseas surveillance activities should be coordinated by a single federal agency such as CDC.

Another of the committee's main recommendations stresses the need to bolster the U.S. public health infrastructure, which has suffered from years of neglect:

U.S. federal, state, and local governments should direct the appropriate resources to rebuild and sustain the public health capacity necessary to respond to microbial threats to health, both naturally occurring and intentional. Expanded prevention and control measures must be executed by an adequately trained and competent workforce. Examples of such measures include surveillance; laboratory capacity; epidemiological, statistical, and communication skills; and systems to ensure the rapid utility and sharing of information.

Expanded prevention and control measures must be executed by an adequately trained and competent workforce.

The committee directly aims a recommendation—involving the critical need for vaccine development, production, and deployment—to the highest levels in government, which at present are “neither addressing all of these challenges at a sufficiently high level nor providing adequate resources”:

The U.S. Secretary of Health and Human Services should ensure the formulation and implementation of a national vaccine strategy for protecting the U.S. population from endemic and emerging microbial threats. Only by focusing leadership, authority, and accountability at the cabinet level can the federal government meet its national responsibility for ensuring an innovative and adequately funded research base for existing and emerging diseases as well as an ample supply of vaccines. In that spirit, the Secretary of HHS should work closely with other relevant federal agencies, Congress, industry, academia, and the public health community.

Only by focusing leadership, authority, and accountability at the cabinet level can the federal government meet its national responsibility...

To avert an imminent crisis resulting from microbial agents' increasing resistance to available antimicrobial drugs, the committee recommends procedures to alert infectious disease control stakeholders to the problem and more finely target the use of antimicrobials. It also advises action on one major source of the problem:

FDA should ban the use of antimicrobials for growth promotion in animals if those classes of antimicrobials are also used in humans.

CDC, FDA, professional health organizations, academia, health care delivery systems, and industry should expand efforts to decrease the inappropriate use of antimicrobials in human medicine through (1) expanded outreach and better education of health care providers, drug dispensers, and the general public on the inherent dangers associated with the inappropriate use of antimicrobials; and (2) the increased use of diagnostic tests, as well as the development and use of rapid diagnostic tests, to determine the etiology of infection and thereby ensure the more appropriate use of antimicrobials.

FDA should ban the use of antimicrobials for growth promotion in animals if those classes of antimicrobials are also used in humans.

Another important pair of recommendations reflect the present realities that "the reporting of infectious diseases by health care providers and laboratories remains inadequate" and that open lines of communication are essential to robust systems of surveillance, investigation, and response:

The agency should develop innovative strategies to improve communication between health care providers and public health authorities...

CDC should take the necessary actions to enhance infectious disease reporting by medical health care and veterinary health care providers. The agency should develop innovative strategies to improve communication between health care providers and public health authorities, and it should do so by working with other public health agencies federal, state, and local; health sciences educators; and professional medical organizations. *(The committee specifically identifies what it believes are some of the obligatory actors in these categories.)*

CDC should expeditiously implement automated electronic laboratory reporting of notifiable infectious diseases from all relevant major clinical laboratories (e.g., microbiology, pathology) to their respective state health departments as part of a national electronic infectious disease reporting system. This set of actions would not only improve surveillance but assist in the control of antimicrobial resistance.

Other recommendations in the report involve the development and use of diagnostics, the education and training of the microbial threat workforce, the need for new antimicrobial drugs, vector-borne and zoonotic (animal to human) disease control, a comprehensive infectious disease research agenda for the United States, and the establishment of interdisciplinary infectious disease centers.

TRUMPETING THE MESSAGE

No responsible assessment of microbial threats to health in the 21st century can end without a call to action on what the committee has called a potentially “catastrophic storm of microbial threats.”

Dramatic advances in science, technology, and medicine have enabled us to make great strides forward in our struggle to prevent and control infectious diseases, yet we cannot fall prey to an illusory complacency. We must understand that pathogens—old and new—are endlessly resourceful in adapting to and breaching our defenses. We must also understand that factors relating to society, the environment, and our increasing global interconnectedness actually enhance the likelihood of disease emergence and spread. Moreover, it is a sad reality that today we must also grapple with the intentional use of biological agents to do harm, human against human.

Thus the prevention and control of infectious diseases are fundamental to individual, national, and global security. Failure to recognize—and act on—this essential truth will surely lead to disaster. We must therefore continue to trumpet a message of urgency and concern.

That message is basically this: the magnitude of the problem requires renewed commitment. Despite our past achievements, we have still not done enough in our defense, or in the defense of others. But as we look at our prospects, it is clear that the best defense against any disease outbreak will be a robust public health system, both in its science and practice, and that sustained attention, dedication, and support will be essential.

Only in this way will we be able to ensure the health and safety of our nation—and the world. We certainly know that in our complex global village, numerous forces converge to make us more vulnerable; but we also know that a great many opportunities stand before us to make a real and enduring difference.

We must also understand that factors relating to society, the environment, and our increasing global interconnectedness actually enhance the likelihood of disease emergence and spread.

Despite our past achievements, we have still not done enough in our defense, or in the defense of others.



For More Information...

Copies of *Microbial Threats To Health: Emergence, Detection, and Response* are available for sale from the National Academies Press; call (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area), or visit the NAP home page at www.nap.edu. The full text of this report is available at <http://www.nap.edu>

Support for this project was provided by the Centers for Disease Control and Prevention's National Center for Infectious Diseases (Contract No. H75/CCH311468, TO#8), the U.S. Department of Defense (Contract No. DAMD17-01-2-0040), the U.S. Agency for International Development (Contract No. HRN-A-00-00-00012-00), the U.S. Department of Agriculture's Food Safety and Inspection Service (Contract No. 590-0790-1-188), the National Institutes of Health's National Institute of Allergy and Infectious Diseases, the National Institutes of Health's Fogarty International Center, the

Ellison Medical Foundation, the U.S. Food and Drug Administration, and the U.S. Joint Institute for Food Safety Research. The views presented in this report are those of the Institute of Medicine Committee on Emerging Microbial Threats To Health in the 21st Century and are not necessarily those of the funding agencies.

The Institute of Medicine is a private, nonprofit organization that provides health policy advice under a congressional charter granted to the National Academy of Sciences. For more information about the Institute of Medicine, visit the IOM home page at www.iom.edu.
Copyright ©2003 by the National Academy of Sciences. All rights reserved.
Permission is granted to reproduce this document in its entirety, with no additions or alterations

∞ ∞ ∞

COMMITTEE ON EMERGING MICROBIAL THREATS TO HEALTH IN THE 21ST CENTURY

MARGARET A. HAMBURG (Co-chair), Vice President for Biological Programs, Nuclear Threat Initiative

JOSHUA LEDERBERG (Co-chair), Professor Emeritus and Sackler Foundation Scholar, The Rockefeller University

BARRY BEATY, Professor of Microbiology, Colorado State University

RUTH BERKELMAN, Professor, Department of Epidemiology, Rollins School of Public Health, Emory University

DONALD BURKE, Professor, Departments of International Health and Epidemiology, Bloomberg School of Public Health, Johns Hopkins University

GAIL CASSELL, Vice President of Scientific Affairs and Distinguished Research Scholar in Infectious Diseases, Eli Lilly and Company

JIM YONG KIM, Co-director of program in Infectious Disease and Social Change, Department of Medicine, Harvard University

KEITH KLUGMAN, Professor of International Health, Department of International Health, Rollins School of Public Health; Professor of Medicine, Division of Infectious Diseases, School of Medicine, Emory University

ADEL MAHMOUD, President, Merck Vaccines, Merck and Co, Inc.

LINDA MEARNs, Scientist and Deputy Director, Environmental and Societal Impacts Group, National Center for Atmospheric Research

FREDERICK MURPHY, Professor, Schools of Veterinary Medicine and Medicine, University of California, Davis

MICHAEL OSTERHOLM, Director, Center for Infectious Disease Research and Public Policy, Professor, School of Public Health, University of Minnesota

CLARENCE PETERS, Professor, Departments of Microbiology and Immunology and Pathology, University of Texas Medical Branch

PATRICIA QUINLISK, Iowa State Epidemiologist, Iowa Department of Public Health

FREDERICK SPARLING, Professor of Medicine and Microbiology and Immunology, University of North Carolina, Chapel Hill

ROBERT WEBSTER, Professor, Virology Division, Department of Infectious Diseases, Rose Marie Thomas Chair, St. Jude Children's Research Hospital, Memphis, TN

MARK WILSON, Associate Professor of Epidemiology, Associate Chair, Ecology and Evolutionary Biology, University of Michigan

MARY WILSON, Associate Professor of Medicine, Harvard Medical School, Associate Professor of Population and International Health, Harvard School of Public Health

STUDY STAFF

MARK S. SMOLINSKI, Study Director

PATRICIA A. CUFF, Research Associate

KATHERINE A. OBERHOLTZER, Project Assistant

RICHARD MILLER, Director, Medical Follow-up Agency