Bioterrorism Preparedness and Response

A National Public Health Training Plan

September 7, 2000

Implementing A National Training Plan for Bioterrorism

Purpose

This proposal outlines the implementation of a national training plan for bioterrorism preparedness. It incorporates recommendations from the CDC Bioterrorism Preparedness & Response Strategic and FY00 Operational Plans, the POST TOPOFF ACTION PLAN, the CDC/ATSDR Strategic Plan for Public Health Workforce Development, and findings from discussions with external partners.

Background

In partnership with representatives from local and state health departments, other federal agencies, and medical and public health professional associations, CDC has developed a strategic plan to address the deliberate dissemination of biological or chemical agents. The plan[1] contains recommendations to reduce U.S. vulnerability to biological and chemical terrorism- preparedness planning, detection and surveillance, laboratory analysis, emergency response and communication systems. Training, research and strengthening partnerships are considered integral components for achieving these recommendations.

The Bioterrorism Preparedness and Response Program (BPRP) FY00 Operational Plan lists many objectives with training-related implications. Most address technical training requirements, e.g., Level B Laboratory course; National Pharmaceutical Stockpile, etc. In December 1999, a meeting of external constituents was held to discuss appropriate target audiences, content, delivery media and partnerships for training the public health workforce[2]. In March 2000, the CDC/BT Steering Committee established a standing workgroup on Training & Education to enhance Agency-wide coordination and advise on the development of a core curriculum for bioterrorism preparedness for front line public health staff.

A national preparedness exercise, codenamed "TOPOFF", conducted from May 20-23, 2000, validated the importance of training as a top priority. Although training provided by CDC in technical skill areas remains a critical need (e.g. National Pharmaceutical Stockpile), TOPOFF demonstrated that a coordinated approach to training on core response competencies is required as well.[3]

U.S. local, state and federal infrastructure is already strained. For example, an estimated 80% of the Nation's 500,000 front line public health workers lack formal training in public health. Many are typically not trained in emergency or disaster response. Consequently, a large proportion is ill prepared to respond to current, new and emerging health threats like bioterrorism. Recently, Dr.Tara O'Toole, Deputy Director of Johns Hopkins University Center for Civilian Biodefense Studies, concluded that the public health system "must identify critical capacities to detect, track and contain" since a bio-weapons attack is not likely to stay local but will spread very quickly.[4]

Critical components of preparedness for bioterrorism are workforce competency, organizational capacity, and surveillance, information and laboratory systems. A national plan for BT training can be most effective by building a sustainable system for workforce development. The elements of a national system for public health workforce preparedness (life long learning system)are outlined in the 1999 *CDC/ATSDR Strategic Plan for Public Health Workforce Development*[5].

Planning Assumptions:

1. Although the TOPOFF follow up focused on strengthening CDC's response capabilities through training, the scope of the training plan outlined in this report is national. This implementation model assumes that developing training for CDC staff in isolation of partner resources, expertise and input will undermine achievement of both short and long term preparedness objectives.

2. Operationalizing the training plan for CDC staff depends upon completion of other POST-TOPOFF ACTION PLAN deliverables, including but not limited to a role/responsibility matrix, a CDC-wide response plan document, fact sheets, notification protocols, etc. The plan as proposed is designed with a degree of flexibility that allows for developing training based on today's capabilities and limitations, while offering the opportunity to enhance products with new advancements as they develop.

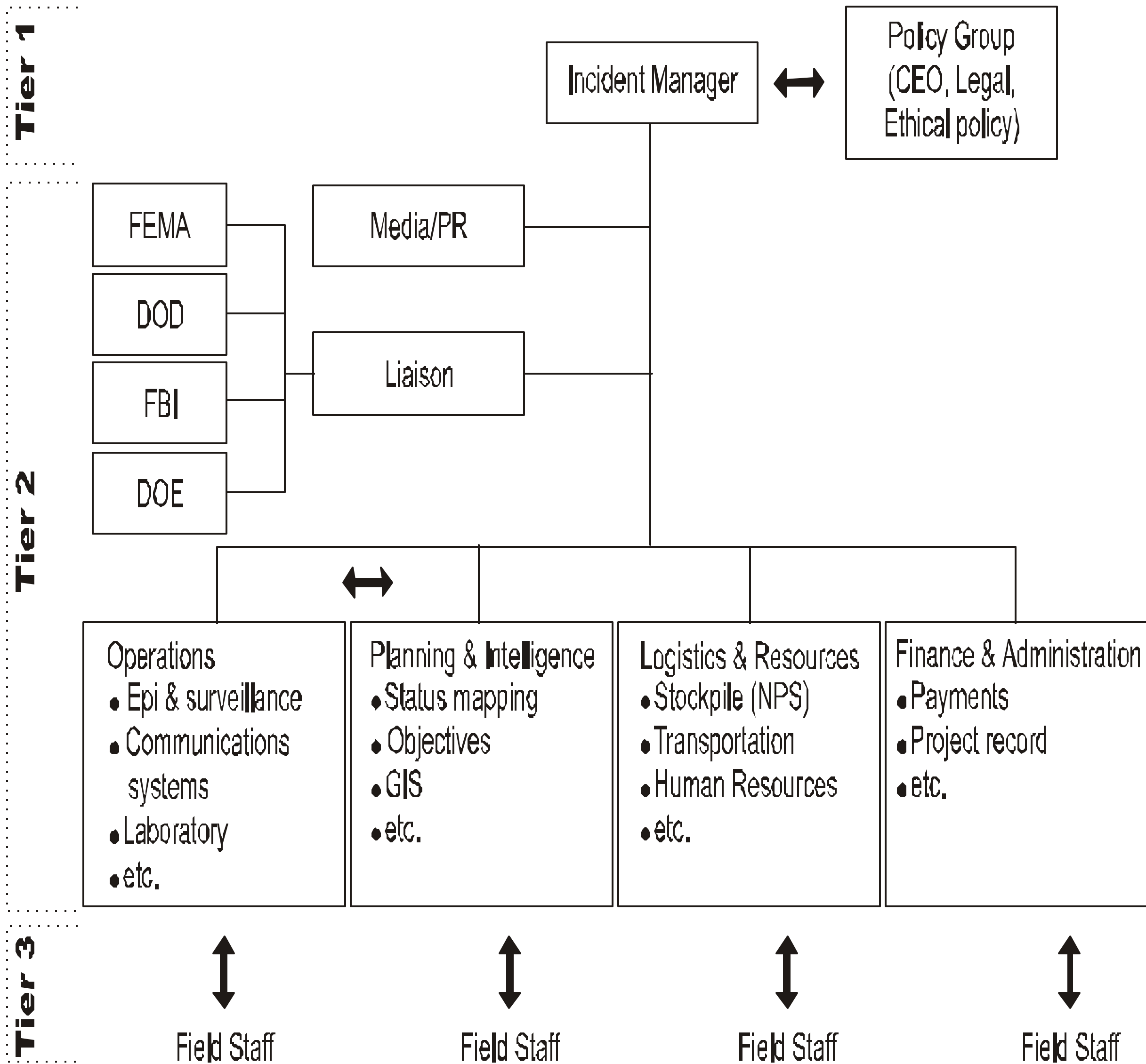
3. CDC's BT training/program will be successful if built on the day-to-day management practices that govern regular operations. Preparedness requires a systematic, iterative approach to training and evaluating performance response. Training for bioterrorism must also be redundant to assure capacity for a sustained response effort.

Definitions:
The following definitions are used in this proposal:

PHASE I TRAINING - this phase describes tasks required to train CDC personnel for their specific roles in implementing *CDC's BT Event Response Operational Plan* (*in development*). The training addresses only unique knowledge and skills required to respond to a biological or chemical terrorist event and assumes as pre-requisites all skill sets required for response to conventional "crisis"demands or those required in routine job performance. While CDC's own facilities, systems and personnel may be targets for terrorists, the focus of this training phase is on CDC's internal operational response capacity as part of the national emergency response plan.

The CDC staff who are the **target audiences for training during PHASE I are clustered into three levels of response (tiers**) based on their functional roles in the *CDC BT Event Response Operational Plan*[6]. Designation of roles/personnel within each level of response (tier) is determined by BPRP/Incident Manager. Response level (policy)-**Tier 1** includes senior executives and specific functions (e.g., legal, communications, ethical, policy). Response level (operations/headquarters)-**Tier 2** includes Incident Manager and related functions (operations; planning & intelligence: logistics and resources; finance & administration). Response level (field

Figure 1
Phase I Training Tiers



operations)-**Tier 3** includes CDC staff to be deployed in the field in case of an event. Note that the Incident Command System structure would be repeated at the field staff level (tier 3). Using the traditional model for an Incident Management System, **Figure 1** portrays relationships among response levels (tiers).

PHASE II TRAINING - this phase describes tasks required to develop and implement a competency-based core curriculum in bioterrorism preparedness for front line public health practitioners. It also outlines strategies to educate other health care workers, specifically, emergency room personnel, infectious disease physicians and nurses, primary care physicians, laboratorians and first responder personnel, about the unique challenges presented by biological terrorist events.

PHASE III TRAINING - this phase describes tasks associated with integrating BT preparedness competencies into a larger framework of public health workforce development. Many of the competencies required for BT/emerging health threats preparedness are integral to the practice of public health, i.e., epidemiology/surveillance, risk communication, laboratory science,leadership, and informatics. Currently 4 out of 5 front line public health staff (e.g., nurses, sanitarians, educators, administrators) lack formal training in public health. A national training plan must address the root causes of "under preparedness" and seek long term solutions.

Strategies

1- The training plan will build upon and deploy existing CDC and partner resources. Specific partnerships for training resources/consultations are anticipated with federal, State, local and academic entities actively involved in BT preparedness, e.g., DOD-USAMRID, HHS/Region IV-Anniston, Alabama training center, Johns Hopkins University (Center for Civilian Biodefense Studies), FEMA, Bioterrorism state grantees, and local exemplar/academic/specialty Centers for Public Health Preparedness.

2- Training planned in each phase will be developed using standard instructional system design steps: assessment/analysis, design/development, delivery, evaluation and revision.

3 - Training strategies for PHASE I will emphasize exercises/drills, courses, and self-instructional resource materials. PHASE II, III will emphasize technology-mediated learning as appropriate (satellite broadcasts, web-based learning, CD-ROMs) in addition to use of PHASE I materials.

4 - PHASE I TRAINING- emphasis is placed on content related to areas identified in the TOP OFF exercise. These focus areas include: (1)Leadership/Incident Management/Operations; (2) Media/Public Relations (3) Epidemiology/Surveillance (4) Laboratory Systems (5) Information Systems and (6) Legal/Other Issues. Other training needs will be addressed in PHASE II activities.

5 - PHASE II TRAINING - emphasis is placed on the development of core curricula (course/materials) which enhance bioterrorism preparedness and provide a broader foundation for CDC's BT technical training. Examples of core curricula might include: informatics, models

for biologic incident command management, victims assistance, laboratory identification of bioterroristic agents, exercise/drills.

6.- PHASE III TRAINING - this phase describes implementation of an integrated "*module*" (e.g.,-"Overview of Public Health's Role in Bioterrorism") within CDC's overall public health workforce development strategic plan. The implementation plan for the public health workforce development initiative is scheduled to be completed by 12/31/00.

Implementation Phases and Time lines

Preplanning (August 2000 -September 2000)
1-August 2000-An analysis of competencies required by CDC staff for effective response was completed in August 2000. The competency clusters were categorized per the POST TOP OFF ACTION PLAN into 1)Leadership/Incident Management/Operations; (2) Media/Public Relations (3) Epidemiology/Surveillance (4) Laboratory Systems (5) Information Systems and (6) Legal/Other Issues. **Appendix A** lists the competencies by category by response level training tier and presents preliminary information on existing resources/persons.

2-In September, a CDC-wide BT Training Workgroup will be charged with translating the competencies into a **detailed operational plan for training.** The plan will include learning objectives, course content, specification of training strategies, identification/selection of existing resources to deploy immediately, adapt, and/or if needed, new courses to be developed. This detailed operational plan will provide additional specification of resources required. PHPPO/Office of Workforce Development will provide the leadership/coordination for the workgroup, while BPRP, NCEH, NCID, PHPPO, EPO, ATSDR and OD/HC will provide subject matter expertise. Selected staff from the local exemplar Centers for Public Health Preparedness will also participate. The expected completion date for this effort is September 30, 2000.

3- **Estimated Implementation Plan Tasks/Costs for FY 01 (all phases):**

PHASE/tasks	**Start[1]**	**Finish[2]**
PHASE I TRAINING-CDC staff	9/1/00	9/30/01
front end analysis of competencies for all response levels (tiers)	7/1/00	9/1/00
operations plan for phase I developed by workgroup	9/1/00	9/30/00
assess resources (adopt, adapt, or develop); examine plans/protocols	10/1/00	12/31/00
detail full time project staff (~ 4 FTEs; includes salary/benefits/other)	10/1/00	3/30/01
develop content/courses/materials-Tier 1	10/1/00	12/31/00

[1]estimates only

[2]time line for training activities may be accelerated as products available.

deliver Tier 1 training-Round 1(e.g retreats, coaching, practice/drills)	12/15/00	3/30/01
develop content/courses/materials-Tier 2	12/15/00	3/30/01
deliver Tier 2 training -Round 1	3/30/01	5/30/01
revise/evaluate/update materials	3/30/01	5/30/01
develop Tier 3 training	4/1/01	5/30/01
deliver Tier 3 training -Round 1; & follow up training Tiers 1,2	6/1/01	6/30/01
internal exercise; critique	7/1/01	8/31/01
Phase/tasks	**Start**	**End**
PHASE II TRAINING (see Appendix B for detail tasks)	1/1/01	9/30/01
PHASE III TRAINING (see Appendix B for detail tasks)	1/1/01	9/30/01
Totals (all phases FY 01)		

APPENDICES

Acknowledgments

This report was prepared by the Office of Workforce Development, Public Health Practice Program Office in collaboration with the CDC/BT Training and Education Committee and other representatives from BPRP, NCEH, NCID, PHPPO, EPO, OHS, OC/HC, and ATSDR. Special thanks to Li-lien Yang, Instructional Systems Designer, DMTS, PHPPO for her work on Appendix A and to all those individuals listed as resource persons.

CDC BT Training Committee Members: Joan Cioffi, Cheryl Lackey- co-chairs; April Bell, Nancy Pegg, Kim Lindsay, Sam Perry, Mark Hemphill, Ron Burger, Stephan Reisman, Ken Archer, Susan Shaw, Judy Delany, Dennis Mc Dowell, Sonya Geathers, Valerie Curry and Barbara Reynolds.

PHPPO Post Top Off BT Training Workgroup: Maureen Lichtveld, chair, Joan Cioffi, Judy Delany, Louise Barden, Stephen Margolis, Susan Shaw, Greg Smothers, Michael Hatcher, Kathe Sunnaborg, Nona Gibbs, Dennis McDowell, Li-lien Yang. Special thanks to Eric Daub and LaVonne Mc Cord, DeKalb, Center for Public Health Preparedness.

Others: William Henriques, Monty Howie, Lisa Rotz, Randy Louchard, Rick Roman, Scott Lillibridge, Eric Noji, Ali Khan, Joe Foster and Scott Deitchman.

A. Competency Analysis - PHASE I TRAINING -CDC staff (all response levels- tiers)-Final Draft-8-25

B. Task/Time line Charts -

Appendix B-Task/ Time Line for BT Training Phase II, III.

#	Task	Est. Start	Est. Finish
1	PHASE I ENDS	Mon 10/2/00	Mon 10/2/01
2	PHASE II BEGINS	Mon 10/2/00	Tue 10/3/01
3	Identify Partners	Mon 10/2/00	Fri 12/29/00
4	Define Target Audience-Phase II	Fri 12/1/00	Wed 2/28/01
5	Convene Partners	Wed 1/24/01	Wed 1/24/01
6	Review Needs Assessment Information (pending availability)	Mon 1/1/01	Fri 3/30/01
7	Establish CDC/Partner WorkGroup	Wed 2/14/01	Fri 3/30/01
8	Identify Resource Requirements Phase II	Thu 3/1/01	Mon 4/30/01
9	Establish Priorities for Core Curriculum Development	Mon 1/1/01	Tue 5/1/01
10	Design/develop core curricula	Tue 5/1/01	Fri 9/28/01
11	Pilot Test Phase II Training	Tue 5/1/01	Mon 9/3/01
12	Provide Technical Training-per FY01BTOpsPlan	Mon 10/2/00	Fri 9/28/01
13	Begin Implementation Phase II	Mon 10/1/01	Mon 9/30/01
14	PHASE III BEGINS	Mon 10/1/01	Wed 10/3/01
15	PHASE III Planning	Mon 10/1/01	Fri 12/28/01
16	PHASE III-Design Development	Tue 1/1/02	Fri 6/28/02
17	Pilot Test Phase III Training	Mon 4/1/02	Mon 9/2/02

References:

1.Biological and Chemical Terrorism: Strategic Plan for Preparedness and Response, MMWR April 21, 2000/49(RR04); 1-14.

2. Summary Report: Bioterrorism Preparedness and Response Program, Education and Training Constituents Meeting, December 23, 1999, Centers for Disease Control and Prevention, Atlanta, GA.

3. Post TOPOFF Action Plan. Phase I-Improving CDC's Immediate Response Capabilities.

4.UPI News Article: U.S. totally unprepared for bioterrorism, Tuesday, 22 August 2000.

5. Task Force on Public Health Workforce Development. CDC/ATSDR Strategic Plan for Workforce Development. Atlanta, Ga: Centers for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry; 1999.

6. CDC BT Event Response Operational Plan. (in development, August 2000). Bioterrorism Response and Preparedness Program, NCID, CDC. Scott Lillibridge, M.D., MPH, Director.