Bioterrorism Prevention Organization

BUSINESS PLAN

BIOTERRORISM & INFECTIONS PREVENTION ORGANIZATION

2307 Lincoln Avenue, Suite 14
Charlottesville, Virginia 22902

The BIPO is a private not-for-profit organization dedicated to the education and training of the public regarding the Bioterrorism prevention and response plans. The goal of the organization is to deter the use of biological agents by terrorists: Minimize the advantage of the potential effective use of any biological pathogen by terrorists through cultivating and enhancing our nation's public health infrastructure to ensure prompt identification of a threat and an appropriate response.

- EXECUTIVE SUMMARY
- PRESENT SITUATION
- PRODUCT STRATEGY
- MARKET ANALYSIS
- MARKETING PLAN
- SALES PROJECTIONS & PRICING STRATEGY
- ORGANIZATION OVERVIEW

EXECUTIVE SUMMARY

Mission

The BIPO's (Bioterrorism & Infections Prevention Organization) mission is "to provide public health and healthcare facilities with the tools needed for preparedness, response, recovery, and mitigation of intentional or naturally occurring outbreaks."

Organization Overview

The BIPO, a private not-for-profit organization dedicated to the education and training of public regarding the Bioterrorism prevention and response plans, has been preparing for Bioterrorism type infections long before the events of September 11, 2001. However, after the events of September 11, 2001, Bioterrorism awareness skyrocketed. It is for these reasons the Bioterrorism department decided to expand its operations.

The goal of the organization is to deter the use of biological agents by terrorists: Minimize the advantage of the potential effective use of any biological pathogen by terrorists through cultivating and enhancing our nation's public health infrastructure to ensure prompt identification of a threat and an appropriate response.

Business Objectives

The primary objective is to come up with a Marketing plan for a multimedia informational CD-ROM entitled, "Be Prepared for Bioterrorism." The marketing plan takes into consideration a multi-distribution channel approach, including e-commerce, along with partnering with other professional organizations in an attempt to get this information into the hands of as many public health professionals as possible.

Current Product

The current product is a narrative multimedia CD-ROM, which contains a Bioterrorism preparation kit, with a checklist for Bioterrorism "readiness." The toolkit is customized by state and includes important emergency phone numbers along with other information on what to do in the case of a terrorist attack or viral outbreak.

Advertising & Promotion

Advertising and promotion efforts will focus primarily on prospective customers over the Internet through various public health organizations such as the Professional Epidemiology Network, the National Disaster Medical Systems, the Infectious Disease Society of America, along with others. Promotions also will include ways to increase website traffic and will utilize mass mailings to target potential customers.

PRESENT SITUATION

Currently the University of Virginia Bioterrorism Center is looking for a Business Plan or E-Commerce solution for the University of Virginia School of Public Health that incorporates the delivery and sales of digital multimedia presentations that include information regarding Bioterrorism preparation and response plans relayed over the Internet. The plan discussed in this document concerns the first product of this effort the "Be Prepared for the Unexpected-CD-ROM," although a number of other products are planned.

Presently, the School of Public Health is working with the Professional Epidemiology Network (PEN). PEN is a nonprofit, international organization that worked with the School of Public Health in putting together an informational CD-ROM on Bioterrorism. It is being distributed as "Be Prepared for the Unexpected-CD-ROM." Currently, this CD-ROM is available from PEN for $8 (members) or $15 (non-members).

Vision

Our vision is to provide a comprehensive and coordinated training and preparedness program across the full continuum of public health activities in the United States to protect Americans from both the intentional use of biological agents and emerging infections.

Goals & Objectives

The objective of the plan will include documenting the necessary processes to distribute digital multimedia information through multiple distribution channels, including Amazon.com, a proposal to set up an "in-house" E-Commerce solution, along with other direct marketing and distribution channels.

The plan will include everything from the reproduction of the media, the presence on the Internet, to the plans for the distribution of product through various methods. Initial plans include what is necessary to distribute the media via Amazon.com, while researching other possible markets, and E-Commerce solutions.

PRODUCT STRATEGY

Overall the product strategy is to deliver digital documentation and multimedia presentations on a CD-ROM

regarding Bioterrorism preparedness and reaction plans. The initial product focuses on targeting Public Health Professionals, Infection Control Professionals, Nurses, and Physicians. Response plans address Bioterrorism agents such as anthrax, smallpox, and plague.

In the future, specialized media also will be created for each agent which will include: history, signs, symptoms, diagnosis, isolation, treatment, prophylaxis, and vaccination.

Current Product Description

The current product is a multimedia CD-ROM that includes information and documents regarding Bioterrorism readiness and response plans. The product includes clinical fact sheets on anthrax, smallpox, botulism, and plague. It also has fact sheets from the Center of Disease Control and information from the Department of Defense. The CD-ROM also includes a Mass Casualty Disaster Plan Checklist.

PEN and the University of Virginia's School of Public Health estimate that over 80 percent of the population can view a CD-ROM from a computer. So in the event of an actual Bioterrorism attack, in which the Internet, Telephones, Libraries, or other means of gathering data may not be available, you would still have a CD-ROM from which the data could be printed as well. The initial product also includes some history and several photos of the various diseases themselves.

Maps are also included on the CD-ROM with customized templates for Bioterrorism readiness plans or "Templates for Healthcare Professionals." By clicking on a state, it will bring up a customized template for each state including important phone numbers such as the FBI and CDC emergency response offices.

Upcoming New Products

The highlighted product below is the first product in this effort and includes a collection of resources to assist a healthcare facility in Bioterrorism preparedness. The others listed are new products in the pipeline, some of them recently completed. The primary focus and strategy of the other products is to target other audiences with specific information pertaining to their area of expertise. Some of the CD-ROMs are specific to a particular disease and include: history, signs and symptoms, diagnosis, isolation, treatment, prophylaxis and vaccination. See the chart below for specific information.

Title	Audience	Content	Length	Estimated Date of Completion
Be Prepared for Bioterrorism	Infection Control Professionals	Collection of resources to assist a healthcare facility in bioterrorism preparedness.	N/A	Completed
Bioterrorism Agent Epidemiology: Anthrax Smallpox, and Plague	Nurses and Infections Control Professionals	Bioterrorism preparedness and the epidemiology of three of CDC's Category A agents: anthrax, smallpox, and plague.	1 hour	Completed
Epidemiology of Anthrax	Physicians and Nurse Practitioners	History, signs and symptoms, diagnosis, isolation, treatment, prophylaxis, and vaccination.	1 hour	4/15/05
Epidemiology of Smallpox	Physicians and Nurse Practitioners	History, signs and symptoms, diagnosis, isolation, treatment, prophylaxis and vaccination.	1 hour	Undetermined (Summer 2005)
Epidemiology of Botulism and Tularemia	Physicians and Nurse Practitioners	History, signs and symptoms, diagnosis, isolation, treatment, prophylaxis and vaccination.	1 hour	Undetermined (Fall 2005)
Epidemiology of Plague and Viral Hemorrhagic Fevers	Physicians and Nurse Practitioners	History, signs and symptoms, diagnosis, isolation, treatment, prophylaxis and vaccination.	1 hour	Undetermined (Spring 2006)
Public Health Preparedness	General Public	Description of the role of the public health in the community and in bioterrorism preparedness.	30 minutes	Completed
Bioterrorism Preparedness	Public Health Professionals	Bioterrorism threat analysis and history.	1 hour	Completed
Bioterrorism Reference Cards (Size: 4 x 6)	Healthcare and Public Health Professionals	Pocket-sized reference cards containing medical information including decontamination, isolation, treatment, prophylaxis, and vaccination recommendations. Nine two-sided 4 x 6 inch cards	N/A	In progress— estimated completion 5/15/2004

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Be Prepared for Bioterrorism	Infection Control Professionals	Collection of resources to assist a healthcare facility in bioterrorism preparedness.	N/A	Completed
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Research & Development

Obtain Copyrights -on the CD-ROMs that are exclusive property of the university, law already copyrights them. However, it is not a bad idea to obtain an official copyright to have one on file.

For the CD-ROMs that contain public data as well as that of the university, it may be possible to add value to the public information to the point a copyright can be obtained based on a "derivative work." That is if you "add value" to the product by perhaps adding an indexing system, or other way to retrieve the data through some sort of software or enhanced interface, the CD-ROM may be eligible to obtain an official copyright.

The current copyright filing fee is $30. See the United States Copyright Library of Congress at http://www.loc.gov/copyright/ for more information on copyrights.

Delivery Modes

DVDs -Although DVDs hold approximately six times more data, there are not nearly as many people using them yet. One of the main reasons for putting the data on a CD-ROM was that over 90 percent of those

surveyed had access to CD-ROM drives. On future surveys a question about DVDs will be added.

Long term, DVDs are the way the market is going. Therefore, not until the School of Public Health has all of the initial CD-ROMs it is planning on creating completed, should it look at DVDs as a "value-added" product. It also will be necessary to add additional quality, as we will be charging a slightly higher price for the media to cover cost.

PDAs or Personal Digital Assistants -Also known as Palm Pilots (brand name). In future CD-ROMs the School of Public Health will look into adding a section of the CD-ROM that can be downloaded onto a PDA. Granted, not all individuals have PDA's, but in a time of disaster this might be the single best thing to which they do have access. PEN is currently in the process of performing a survey on PDAs.

Easy Access Web Links on the CD-ROMs -The Bioterrorism department needs to put easy access hyperlink buttons on the CD-ROMs that take individuals directly to the website. This will give the individual the opportunity to see what "new" or other products are being offered on the website, and will assist with keeping the website in front of the customer's eyes.

MARKET ANALYSIS

The market will vary with the actual data that resides on the individual CD-ROMs. For the purposes of this plan we are focusing on "Be Prepared for Bioterrorism." As the other products are completed, it will need to be decided which of the following markets the product fits in and which markets to target. There will always be some overlap.

We have identified three distinct markets from which to work. The goal should be to work from the primary market and then expand into the secondary and tertiary markets as the organization evolves.

General Market Definitions and Customer Profiles

Primary Market -This would include Infection Control Professionals, along with everyone directly involved in the Public Health Industry.

> *Infection Control Professionals* -There are currently approximately 6,400 hospitals in the United States. Each one is by law required to have an Infection Control Professional on staff. Some of the smaller hospitals may share the position, whereas some of the larger hospitals may have more than one. One average it is about one per hospital. Information provided by Jessica Blaine, Director of Marketing, PEN. This is PEN's primary customer base.
>
> *Public Health Professionals* -There are approximately 3,000 Public Health offices in the United States. The Bioterrorism department has a list of these offices as many of them were involved in the initial technology survey sent out.

Secondary Market -This would include a subset of the entire Healthcare Industry. Since the Healthcare Industry is so broad, it would have to be segregated. It would include, but not be limited to, nurses, especially nurses within the Infection Control area. It would include first response Healthcare workers such as doctors and nurses that work in the emergency department. It would also include students of infection control. Many of these individuals are members of the organizations listed in the Marketing Plan, and for the sake of concentration should be pursued directly through those organizations.

Tertiary Market -Special CD-ROMs with information could be tailored toward Fire Fighters, Police Officers, and other public "first" responders.

For Fire Fighters, the IAFF (International Association of Fire Fighters) would be an excellent place to pursue (http://www.iaff.org/). The IAFF represents more than 240,000 professional fire fighters and emergency

medical personnel in the United States and Canada.

For Police Officers the best resource would be NAPO, or National Association of Police Officers, http://www.napo.org/. The NAPO is now the strongest unified voice supporting law enforcement officers in the United States. NAPO represents more than 225,000 sworn law enforcement officers.

This market also would include the general public. The general public should be pursued through ads and distribution on major websites, and good placement in search engines.

Competition

The primary competition for this CD-ROM is the Center for Disease Control public domain data. However, this CD-ROM does add value and puts all of the data in one place so you do not have to sift through the information. Nor does the CDC offer information in video format. Another selling point for the CD-ROM is that the Internet and/or CDC may not be available in event of crises, whereas an individual or group of individuals would always have the CD-ROM readily available at or near their computer.

Risks

The "Be Prepared for Bioterrorism" CD-ROM is not copyrighted. If you copyright it, then people shouldn't copy it, except in accordance with applicable laws. A recommendation is to revise the CD-ROM and/or future CD-ROMs so that the information within can legally be copyrighted. This has been summarized previously in the Research and Development section.

Technology Access Survey Information

A survey by Philip J. Ferguson, Ph.D., and M.P.H. Associate Director of Science, was conducted to find out how many Physicians have access to Technology and the Internet, and how the Physicians prefer to train. The results indicated that 90 percent of the Healthcare workers surveyed had access to a CD-ROM drive either at work or at home.

The survey also indicated approximately 5 percent prefer training on a CD-ROM, and 51 percent preferred training on the Internet.

MARKETING PLAN

The marketing plan proposed a multi-channel distribution approach. This means that BIPO will sell its products through a variety of outlets or channels in order to most efficiently get its products before the key markets. This initially includes direct sales through PEN and other professional organizations, as well as the BIPO e-commerce website, and sales through distribution on major websites.

Direct Sales Marketing Information

The goal of the direct marketing plan is to partner with other organizations that are "already in the business." This will give the university direct contact with the primary, secondary, and tertiary markets, and those most apt to purchase these types of materials.

The following organizations need to be contacted directly to find out about possible partnerships, web links, newsletter, and conference information. Many of these organizations hold regular conferences and exhibits. Information needs to be gathered as to what is necessary to get CD-ROMs promoted, possible product demonstrations, or sample handouts.

Each of these organizations also has websites and it may be possible to add links from their website to the School of Public Health's Bioterrorism website.

Organization	Description	Market	Estimated Numbers
PEN—Professional Epidemiology Network	Primary customer base is Infection Control Professionals and those interested in the Infection Control field.	Primary	Approximately 14,000 members.
APHA—American Public Health Association http://www.apha.org/	An association of individuals and organizations working to improve the public's health and to achieve equity in health status for all.	Primary and Secondary	50,000 members from over 50 occupations of public health.
NDMS—National Disaster Medical System http://www.oep-ndms.dhhs.gov/index.html	The overall purpose of the NDMS is to establish a single, integrated national medical response capability for assisting state and local authorities in dealing with the medical and health effects of major disasters.	Primary, Secondary, and Tertiary	More than 7,000 physicians, nurses, paramedics, pharmacists, and other allied healthcare personnel serve as members of the NDMS disaster response teams.
IDSA—Infectious Disease Society of America http://www.idsociety.org/	IDSA's mission is to promote and recognize excellence in patient care, education, research, public health, and the prevention of infectious diseases.	Primary and Secondary	Annual Conference held in October. October 2001 Attendance approximately 3,300.
OPHS—Office of Public Health and Science, U.S. Department of Health and Human Services http://www.surgeongeneral.gov/ophs/	OPHS serves as the Senior Advisor on public health and science issues to the Secretary of Health and Human Services. This site has links to many public health office and organizations.	Primary, Secondary, and Tertiary	Many links and addresses to other Public Health Offices. Emergency Preparedness Offices, etc. Could be excellent resource for mass mailings.

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OPHS-Office of Public Health and Science, U.S. Department of Health and Human Services	OPHS serves as the Senior Advisor on public health and science issues to the	Primary, Secondary, and Tertiary	Many links and addresses to other Public Health Offices.

Organization	Description	Market	Estimated Numbers
http://www.surgeongeneral.gov/ophs/	Secretary of Health and Human Services. This site has links to many public health office and organizations.		Emergency Preparedness Offices, etc. Could be excellent resource for mass mailings.
NACCHO—National Association of County and City Health Officials http://www.naccho.org/	NACCHO provides education, information, research, and technical assistance to local health departments and facilitates partnerships among local, state, and federal agencies in order to promote and strengthen public health.	Primary, Secondary, and Tertiary	Serves all of the nearly 3,000 local health departments nationwide. Approximately 500 attend the annual conference.
MMRS—Metropolitan Medical Response System. http://www.mmrs.hhs.gov/	Managed by the Office of Emergency Preparedness (OEP). The primary focus is to develop or enhance existing emergency preparedness systems. The goal is to coordinate the efforts of local law enforcement, fire, HAZMAT, EMS, hospital, public health, and other personnel to improve response capabilities in the event of a terrorist attack. The number one goal is to integrate biological preparedness into the overall planning process.	Primary, Secondary, and Tertiary	Membership unknown, however, various events are held every month. Bioterrorism Preparedness is a primary focus.
NACCHO-National Association of County and City Health Officials http://www.naccho.org/	NACCHO provides education, information research, and technical assistance to local health departments and facilitates partnerships among local, state, and federal agencies in order to promote and strengthen public health.	Primary, Secondary, and Tertiary	Serves all of the nearly 3,000 local health departments nationwide. Approximately 500 attend the annual conference.
MMRS-Metropolitan Medical Response System. http://www.mmrs.hhs.gov/	Managed by the Office of Emergency Preparedness (OEP). The primary focus is to develop or enhance existing emergency preparedness systems. The goal is to coordinate the efforts of local law enforcement, fire, HAZMAT, EMS, hospital, public health, and other personnel to improve response capabilities in the event of a terrorist attack. The number one goal is to integrate biological preparedness into the overall planning process.	Primary, Secondary, and Tertiary	Membership unknown, however, various events are held every month. Bioterrorism Preparedness is a primary focus.

Commerce Marketing Strategy

This strategy depends on getting the BIPO name to individuals who are surfing the Internet and interested in Bioterrorism. To give an indication of the current size of this audience, www.bioterrorism.uv.edu recorded 2,758 page views in the month of February. Of those, 2,081 were unique visitors and the average time spent looking was 2 minutes and 29 seconds (Information supplied by John Masterson, Webmaster, University of Virginia).

Since the majority of page referrals come from search engines, especially from the first few entries returned from a search engine, it is important to be one of the first sites returned. At this point BIPO is doing quite well.

See the results listed below when you search on the term "Bioterrorism" with the following search engines:

- Google.com-The Center for Disease Control comes up first and University of Virginia's website comes up as the 2nd link on the search list.
- Looksmart.com-University of Virginia comes up 1st

- Lycos.com-University of Virginia comes up 2nd
- Yahoo.com-University of Virginia comes up 4th
- Netscape.com-University of Virginia come 13th

There are several techniques the center could use to build on this strategy, like finding similar words to search on to generate hits. See the examples below.

- Biological Warfare-Searched Google, first 50 hits and none of them were from the University of Virginia.
- Anthrax-Searched Google, first 50 hits and none of them were from the University of Virginia.
- Small Pox-Searched Google, first 50 hits had a University of Virginia pdf file posted, however, there was not a link to the university's website.

The center also could partner with other organization websites with similar interests to set up links to the University of Virginia's website. Examples may include:

- Department of Defense
- Centers of Disease Control
- Other universities
- American Medical Association-This URL is an Index to Bioterrorism Resources and contains links to other Bioterrorism related sites. http://www.ama-assn.org/ama/pub/category/6671.html
- Office of Public Health and Science-http://www.surgeongeneral.gov/ophs/
- Office of Emergency Preparedness-http://ndms.dhhs.gov/

Consult with University of Virginia's webmaster John Masterson for guidance and tips for generating hits.

Amazon.com Marketing Information

Amazon.com's website also has been researched as a place to offer our products. See the Amazon information below. Amazon pays 45 percent of suggested retail. If the university sets the price at $15.00, the School of Public Health will net $6.75 per CD-ROM.

Requirements to get set up with Amazon:

- Set "suggested retail" price assuming the university will net 45% of that.
- Obtain ISBN number for CD-ROM.
- Join the Amazon.com "Advantage Plan."
- Customize the site with the information you want to present to the public.

Amazon.com Pros and Cons

Pros: It is free and there are no initial overhead costs other than the product.

- Little or no maintenance involved.
- No variable cost-exact cost/profit per CD-ROM is known up front.
- No third-party shipping hassles; Amazon handles it.

Cons: Little or no control over how many people see your advertisement.

- Amazon.com only pays 45% of sale price.
- You must deal on "their" terms.

Production & Delivery

Production

The School of Public Health's Bioterrorism department worked with PEN in putting together a master copy of the CD-ROM. From the master, multiple copies of the CD-ROM can be made.

See a summary of the pricing below for the various lot numbers. These numbers include CD-ROM replication, a jewel case with assembly and shrinkwrap, a 4-color one-sided jewel case insert, and a cardboard mailer. See Appendix E for a complete summary of pricing and options.

Lot	Price Each
500	$2.80
1,000	$1.90
2,000	$1.75
3,000	$1.67
5,000	$1.58
10,000	$1.45

Lot	Price Each
500	$2.80
1,000	$1.90
2,000	$1.75
3,000	$1.67
5,000	$1.58
10,000	$1.45

Delivery

The method of sale will depend on the delivery method. For all deliveries that require individual CD-ROMs to be shipped, it is recommended that the Bioterrorism department use a sheltered workshop. Amy Ruler of the Bioterrorism department recommended GPM. See GPM's information below.

Organization Name:	GPM
Contact:	Fred Louver
Address:	6475 Washington Boulevard Columbia, MO 65203
Telphone Number:	(800) 455-9054
Pricing:	$.10 per Envelope
Includes:	Affixing Labels Postage Metering—Would Require Necessary Reimbursement Shipping

Organization Name:	GPM
Contact:	Fred Louver
Address:	6475 Washington Boulevard Columbia, MO 65203
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Pricing:	$.10 per Envelope
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The Bioterrorism department would be responsible for supplying the labels, materials, and envelopes. This would mean the Bioterrorism department should build into their system a way to print labels for the orders taken on the BIPO website.

SALES PROJECTIONS & PRICING STRATEGY

See below the multi-tiered pricing strategy and sales projection strategy. The current pricing strategy is priced somewhat low, and revolves a lot around PEN's current pricing structure. It is designed to try and get a fair price for the CD-ROMs, while offering discounts and quantity pricing to individuals that belong to professional health organizations.

Pricing Strategy

This pricing strategy is based on attracting individuals that belong to various professional healthcare associations. Also included is "conference pricing," whereas it may be possible to get an organization to sponsor purchasing a few hundred of the CD-ROMs at an even larger discount. This would give the university an opportunity to get its name out there and generate more business for future products, especially if the CD-ROMs contained direct links back to the Bioterrorism website.

See below two other somewhat comparable products listed on Barnes and Noble and Amazon.

Amazon.com	Barnes and Noble
21st Century Germs, Germ Warfare, Anthrax, and Bioterrorism: Fort Detrick Official Medical Management Handbook plus Complete Guide to Nuclear, Biological, and Chemical Terrorism (book and CD-ROM) List Price: $39.95 Amazon Price: $39.95	*Germs: Biological Weapons and America's Secret War* (CD-ROM) Retail Price: $30.00 Barnes & Noble Price: $24.00 You Save: $6.00 (20%) Readers' Advantage Price: $22.80

Amazon.com
21st Century Germs, Germ Warfare, Anthrax, and Bioterrorism: Fort Detrick Official Medical Management Handbook plus Complete Guide to Nuclear, Biological, and Chemical Terrorism (book and CD-ROM)
List Price: $39.95
Amazon Price: $39.95

Barnes and Noble
Germs: Biological Weapons and America's Secret War (CD-ROM)
Retail Price: $30.00
Barnes & Noble Price: $24.00
You Save: $6.00 (20%)
Readers' Advantage Price: $22.80

With the exception of the "conference pricing," the prices below are the same prices PEN is charging. However, as long as the products are not identical, it would be possible to have a higher "suggested retail." Since at this point the products are identical, it is recommended the university charge the same price as PEN.

Pricing Method	Price	Description
Suggested Retail/nonmembership Barnes & Noble and Amazon Pricing	$15.00	This is the price to be charged to all individuals who are not members of the following organizations. The Bioterrorism department will need to come up with the list of the organizations to which it wants to give the discount.
Membership Pricing	$8.00	Again, the Bioterrorism department will need to decide what organizations it wants to give discounts. It is recommended to give discounts to all organizations it is interested in partnering with.
Conference Pricing—When purchasing 500 CD-ROMs or more. This also takes into consideration when purchasing newly manufactured CD-ROMs, a lot of 500 is generally the lowest price break.	$6.00	This is designed to sell the CD-ROMs in bulk. This will allow the department to make a profit, along with the hope of gaining a customer that will purchase future products such as CME credits, etc., especially since the CD-ROM will contain links back to the university's Bioterrorism website.

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Sales Projection Method

Given there is not any historical data to project sales, a theoretical method was applied to all groups in the multi-distribution channel. That is a hypothetical "group member"/reachable ratio or "web visits"/sales ratio was used. That was based on a theoretical number of individuals that might possibly be reached within a given organization.

For instance, organizations such as APHA that have 50,000 members, the individuals are very spread out, thus harder to reach all 50,000. Therefore it was assigned a lower member/reachable ratio. Markets that are dense were assigned higher percentages, as it is easier to hit the masses all at once (i.e., if you could show your product at a conference, it would "hit" a very high percentage of the people).

From here an arbitrary number of 3 percent was assigned across the board. This number could be high for some markets, but is probably low for most. The theory is that of all the qualified individuals that actually see the product, 3 percent of them would buy it. In some of the organizations membership was unknown, therefore a conservative arbitrary number was applied. Again, this is a very conservative approach and focuses on making back expenditures, however, retains the flexibility for higher sales.

Please note: These numbers are based on one product only, "Be Prepared for Bioterrorism." As the product line expands, so will the markets and therefore so will the sales. Consequently, it is imperative to target the markets based on the current product line.

See Appendix A for the actual numbers that were assigned.

Sales Projection Summary

The sales projection summary in Appendix A totaled 1,818. This is the number of this particular CD-ROM that is being used as a first-year baseline. Also, scenarios for various amounts of sales can be found in Appendix B.

For the purposes of this plan a baseline price of $10.00 per CD-ROM has been established. That is an average sale price of $10.00 that includes shipping and handling. The reason for the average is some of the CD-ROMs on the Bioterrorism website may be sold at $15.00, however, many will be sold at $8.00. While on Amazon.com the net sale price after Amazon's commissions will only be $6.75, and the conference price is $6.00.

> **Again, the reason for the above prices is because this is the exact price PEN is charging for the exact same CD-ROM that in turn contains PEN references. If the Bioterrorism department modifies the CD-ROM, whereas it is a different CD-ROM, and can obtain a copyright, the department will have much more flexibility over the price and how the CD-ROM is sold.*

ORGANIZATION OVERVIEW

Location

University of Virginia, School of Public Health Center for the Study of Bioterrorism and Emerging Infections
Charlottesville, VA 22902

Legal Business Description

University of Virginia, School of Public Health Center for the Study of Bioterrorism and Emerging Infections is a private not-for-profit organization dedicated to the education and training of the public regarding the Bioterrorism prevention and response plans.

Management Team

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Infectious Disease Consultant

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Strategic Alliances

PEN-Professional Epidemiology Network

1595 M Street, SW, Suite 400, Washington, D.C. 20005-4006, Telephone: 202-789-4590, Fax: 202-789-4599.

PEN Company Overview-PEN is a multi-disciplinary, voluntary, international organization. PEN promotes wellness and prevents illness and infection worldwide by advancing healthcare epidemiology through education, collaboration, research, practice, and credentialing. PEN also offers courses that count towards Continuing Education (CE) credits.

PEN is also in the business of marketing information regarding healthcare and infection control. PEN handed out approximately 2,000 of the "Be Prepared for Bioterrorism" CD-ROMs at their 2001 "Annual Educational Conference." At this conference there was actually a specified section on Bioterrorism. This year's conference will be held in June and will include many of the same people that attended last year's conference, however, it will not contain a section on Bioterrorism.

The Director of Marketing at PEN, Jessica Blaine, has agreed to share marketing numbers and information with University of Virginia as both organizations have a common interest in marketing Education.

Appendix A

Sales Projections from Sales Projection Summary. Results of Exact Sales Projection Method Used.

1st Year Sales Projections from Various Distribution Channels for "Be Prepared for Bioterrorism" CD-ROM only

Organization	Total Number of Members	Arbitrary Estimated Percentage to Actually Reach in Market	Number of Members Actually Reached Based on the Estimated %	Estimated Number of CD-ROM Sales Projected Based on Sales of 3% of the Market Reached
PEN—Approx. 3,000 members already have the CD-ROM from the conference, this number has been deducted from the "Actual Number to Reach."	14,000	75%	7,500	225
APHA—50,000 members from over 50 occupations of public health. Note: Not as much of a primary market as PEN.	50,000	20%	10,000	300

1st Year Sales Projections from Various Distribution Channels for "Be Prepared for Bioterrorism" CD-ROM only

1st Year Sales Projections from Various Distribution Channels for "Be Prepared for Bioterrorism" CD-ROM only

Organization	Total Number of Members	Arbitrary Estimated Percentage to Actually Reach in Market	Number of Members Actually Reached Based on the Estimated %	Estimated Number of CD-ROM Sales Projected Based on Sales of 3% of the Market Reached
PEN -Approx. 3,000 members already have the CD-ROM from the conference, this number has been deducted from the "Actual Number to Reach."	14,000	75%	7,500	225

Organization	Total Number of Members	Arbitrary Estimated Percentage to Actually Reach in Market	Number of Members Actually Reached Based on the Estimated %	Estimated Number of CD-ROM Sales Projected Based on Sales of 3% of the Market Reached
APHA -50,000 members from over 50 occupations of public health. Note: Not as much of a primary market as PEN.	50,000	20%	10,000	300

Continued...

Organization	Total Number of Members	Arbitrary Estimated Percentage to Actually Reach in Market	Number of Members Actually Reached Based on the Estimated %	Estimated Number of CD-ROM Sales Projected Based on Sales of 3% of the Market Reached
NDMS—7,000+ physicians, nurses, paramedics, pharmacists, and other allied healthcare personnel serve as members of the NDMS disaster response teams.	7,000	50%	3,500	105
IDSA—Annual Conference held in October. October 2001 attendance approx. 3,300.	3,300	100%	3,300	99
OPHS—Serves as the Senior Advisor on public health and science issues to the Secretary of Health and Human Services. This site has links to many public health office and organizations.	unknown	unknown	unknown	100
NACCHO—Serves all of the nearly 3,000 local health departments nationwide. Approximately 500 attend the annual conference.	3,000	100%	3,000	90
MMRS—Membership unknown, however, various events are held every month. Bioterrorism Preparedness is a primary focus.	unknown	unknown	unknown	100
BIPO—E-Commerce Marketing Strategy, based on web visits per month, total "visits" were multiplied by 12 to come up with an annual amount. Increased visits would mean increased sales.	24,972	100%	24,972	749
Amazon.com	unknown	unknown	unknown	50
			TOTAL	**1,818**

Organization	Total Number of Members	Arbitrary Estimated Percentage to Actually Reach in Market	Number of Members Actually Reached Based on the Estimated %	Estimated Number of CD-ROM Sales Projected Based on Sales of 3% of the Market Reached
NDMS -7,000+ physicians, nurses, paramedics, pharmacists, and other allied healthcare personnel serve as members of the NDMS disaster response teams.	7,000	50%	3,500	105
IDSA -Annual Conference held in October. October 2001 attendance approx. 3,300.	3,300	100%	3,300	99
OPHS -Serves as the Senior Advisor on public health and science issues to the Secretary of Health and Human Services. This site has links to many public health office and organizations.	unknown	unknown	unknown	100

Organization	Total Number of Members	Arbitrary Estimated Percentage to Actually Reach in Market	Number of Members Actually Reached Based on the Estimated %	Estimated Number of CD-ROM Sales Projected Based on Sales of 3% of the Market Reached
NACCHO -Serves all of the nearly 3,000 local health departments nationwide. Approximately 500 attend the annual conference.	3,000	100%	3,000	90
MMRS -Membership unknown, however, various events are held every month. Bioterrorism Preparedness is a primary focus.	unknown	unknown	unknown	100
BIPO -E-Commerce Marketing Strategy, based on web visits per month, total "visits" were multiplied by 12 to come up with an annual amount. Increased visits would mean increased sales.	24,972	100%	24,972	749
Amazon.com	unknown	unknown	unknown	50
			TOTAL	**1,818**

Appendix B

Break Even/Profit Point Based on 1st Year's Estimated Sales

Sales Breakeven Summary for Initial CD-ROM	
U-V's Estimated Average Gross Sale per CD-ROM	$8.00
Plus $2.00 Shipping and Handling	$2.00
Total Estimated Gross Sale per CD-ROM	**$10.00**
Less U-V's Estimated Cost per CD-ROM *(Based on 1,000 Lot Purchase = $1.90 per CD-ROM + 1.00 shipping and handling)*	$2.90
Initial Gross Profit per CD-ROM	**$7.10**
Less University Expenses	
Less 10% of Gross Profit per CD-ROM Goes to the School	$0.71
Less 12% Gross Profit per CD-ROM Goes to the University	$0.85
78% Goes to the School of Public Health = Gross Profit per CD-ROM	**$5.54**
Initial Start-up Cost	
Estimated CD-ROM Programming Cost	$6,400
Merchant's 1st Year Annual Start-up Cost	$1,662.40
Mass Mailing to 5,000 Addresses at .25 each	$1,250.00
Total Start-up Cost	**$9,312.40**
Number of CD-ROM Sales Necessary for the School of Public Health to Break Even	1,682
Initial Number of Estimated CD-ROMs to be Sold	1,818
Difference	+136
Net Profit	**$755.68**

Break Even/Profit Point Based on 1st Year's Estimated Sales
Break Even/Profit Point Based on 1st Year's Estimated Sales
Sales Breakeven Summary for Initial CD-ROM

U-V's Estimated Average Gross Sale per CD-ROM	$8.00
Plus $2.00 Shipping and Handling	$2.00
Total Estimated Gross Sale per CD-ROM	**$10.00**
Less U-V's Estimated Cost per CD-ROM *(Based on 1,000 Lot Purchase = $1.90 per CD-ROM +*	$2.90

1.00 shipping and handling)	
Initial Gross Profit per CD-ROM	**$7.10**
Less University Expenses	
Less 10% of Gross Profit per CD-ROM Goes to the School	$0.71
Less 12% Gross Profit per CD-ROM Goes to the University	$0.85
78% Goes to the School of Public Health = Gross Profit per CD-ROM	**$5.54**
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Number of CD-ROM Sales Necessary for the School of Public Health to Break Even	1,682
Initial Number of Estimated CD-ROMs to be Sold	1,818
Difference	+136
Net Profit	**$755.68**

Appendix C

Profit/Loss Scenarios Based on Number of CD-ROMs Sold Appendix C

Profit/Loss vs. Sales		**500**	**1,000**	**2,000**	**3,000**	**5,000**
U-V's Estimated Average Gross Sales per CD-ROM	$8.00	$4,000	$8,000	$16,000	$24,000	$40,000
Plus $2.00 Shipping and Handling	$2.00	$1,000	$2,000	$4,000	$6,000	$10,000
Total Estimated Gross Sales per CD-ROM	$10.00	$5,000	$10,000	$20,000	$30,000	$50,000
Less U-V's Estimated Cost per CD-ROM Based on 1,000 Lot Purchase = $1.90 per CD-ROM + 1.00 shipping and handling	$2.90	$1,450	$2,900	$5,800	$8,700	$14,500
Initial Gross Profit per CD-ROM	$7.10	$3,550	$7,100	$14,200	$21,300	$35,500
Less University Expenses						
Less 10% Of Gross Profit per CD-ROM Goes to the School	$0.71	$355	$710	$1,420	$2,130	$3,550

Profit/Loss Scenarios Based on Number of CD-ROMs Sold
Profit/Loss Scenarios Based on Number of CD-ROMs Sold

Profit/Loss vs. Sales		**500**	**1,000**	**2,000**	**3,000**	**5,000**
U-V's Estimated Average Gross Sales per CD-ROM	$8.00	$4,000	$8,000	$16,000	$24,000	$40,000
Plus $2.00 Shipping and Handling	$2.00	$1,000	$2,000	$4,000	$6,000	$10,000
Total Estimated Gross Sales per CD-ROM	$10.00	$5,000	$10,000	$20,000	$30,000	$50,000
Less U-V's Estimated Cost per CD-ROM Based on 1,000 Lot Purchase = $1.90 per CD-ROM + 1.00 shipping and handling	$2.90	$1,450	$2,900	$5,800	$8,700	$14,500
Initial Gross Profit per CD-ROM	$7.10	$3,550	$7,100	$14,200	$21,300	$35,500
Less University Expenses						
Less 10% Of Gross Profit per CD-ROM Goes to the School	$0.71	$355	$710	$1,420	$2,130	$3,550

Profit/Loss vs. Sales		500	1,000	2,000	3,000	5,000
Less 12% Gross Profit per CD-ROM Goes to the University	$0.85	$426	$852	$1,704	$2,556	$4,260
78% Goes to the School of Public Health = Gross Profit per CD-ROM	$5.54	$2,769	$5,538	$11,076	$16,614	$27,690
Less Initial Start-up Cost						
Estimated CD-ROM Programming Cost		$6,400	$6,400	$6,400	$6,400	$6,400
Merchant's 1st Year Annual Start-up Cost		$1,662	$1,662	$1,662	$1,662	$1,662
Mass Mailing to 5,000 Addresses @ .25 Each		$1,250	$1,250	$1,250	$1,250	$1,250
Profit/Loss		**-$6,543**	**-$3,774**	**$1,764**	**$7,302**	**$18,378**

Profit/Loss vs. Sales		**500**	**1,000**	**2,000**	**3,000**	**5,000**
Less 12% Gross Profit per CD-ROM Goes to the University	$0.85	$426	$852	$1,704	$2,556	$4,260
78% Goes to the School of Public Health = Gross Profit per CD-ROM	$5.54	$2,769	$5,538	$11,076	$16,614	$27,690
Less Initial Start-up Cost						
Estimated CD-ROM Programming Cost		$6,400	$6,400	$6,400	$6,400	$6,400
Merchant's 1st Year Annual Start-up Cost		$1,662	$1,662	$1,662	$1,662	$1,662
Mass Mailing to 5,000 Addresses @ .25 Each		$1,250	$1,250	$1,250	$1,250	$1,250
Profit/Loss		**-$6,543**	**-$3,774**	**$1,764**	**$7,302**	**$18,378**

Appendix D

Verisign Merchant Account Start-up Cost and Cost per Transaction

Cost of Merchant Account using Verisign	One-Time Initial Start-up Cost	Monthly Cost	Annual Cost	Additional Transaction Cost for more than 500 Transactions per Month	Total First-Year Annual Cost
Payflow Link for lower volume selling, signup fee up to 500 transactions per month; includes credit card and electronic check processing	$179.00				$179.00
Annual cost to use Payflow Link program			$349.00		$349.00
Monthly charge		$19.95			$239.40
One-time cost to purchase 128 bit secure socket layer software	$895.00				$895.00
Total annual first-year cost based on less than 500 transactions per month					**$1,662.40**
Total first-year cost per month, total cost divided by 12 to establish monthly baseline based on less than 500 transactions per month					**$138.53**

Verisign Merchant Account Start-up Cost and Cost per Transaction
Verisign Merchant Account Start-up Cost and Cost per Transaction

Cost of Merchant Account using Verisign	One-Time Initial Start-up Cost	Monthly Cost	Annual Cost	Additional Transaction Cost for more than 500 Transactions per Month	Total First-Year Annual Cost
Payflow Link for lower volume selling, signup fee up to 500 transactions per month; includes	$179.00				$179.00

Cost of Merchant Account using Verisign	One-Time Initial Start-up Cost	Monthly Cost	Annual Cost	Additional Transaction Cost for more than 500 Transactions per Month	Total First-Year Annual Cost
credit card and electronic check processing					
Annual cost to use Payflow Link program			$349.00		$349.00
Monthly charge		$19.95			$239.40
One-time cost to purchase 128 bit secure socket layer software	$895.00				$895.00
Total annual first-year cost based on less than 500 transactions per month					**$1,662.40**
Total first-year cost per month, total cost divided by 12 to establish monthly baseline based on less than 500 transactions per month					**$138.53**

Economies of Scale…		Number of Transactions per Month	Cost per Transaction
		100	$1.39
		200	$0.69
		300	$0.46
		400	$0.35
		500	$0.28
		600	$0.33
		700	$0.30
		800	$0.27
		900	$0.25
		1,000	$0.24
		1,500	$0.19
		2,000	$0.17
		3,000	$0.15
		4,000	$0.13
Optional toll free 24 x 7 support per month	$495.00	5,000	$0.13

Economies of Scale…	Number of Transactions per Month	Cost per Transaction
	100	$1.39
	200	$0.69
	300	$0.46
	400	$0.35
	500	$0.28
	600	$0.33
	700	$0.30
	800	$0.27
	900	$0.25
	1,000	$0.24
	1,500	$0.19
	2,000	$0.17
	3,000	$0.15

Economies of Scale…		Number of Transactions per Month	Cost per Transaction
		4,000	$0.13
Optional toll free 24 x 7 support per month	**$495.00**	**5,000**	**$0.13**

Appendix E

CD-ROM Replication and Packaging Prices

CD-ROM Replication Pricing Approx. 10-Day Turn Around	Quantity	Price	Price Each
	500	$849	$1.70
	1,000	$899	$0.90
	2,000	$1,499	$0.75
	3,000	$1,999	$0.67
	5,000	$2,999	$0.60
	10,000	$4,499	$0.45

Price includes 3-color CD-ROM Label.

Packaging Options	Price Each
Jewelcase with assembly and shrinkwrap	$0.25
Tyvek Sleeve with window and flap	$0.20
Tyvek Sleeve without window and flap	$0.10
Plastic Sleeve	$0.12

CD-ROM Replication and Packaging Prices
CD-ROM Replication and Packaging Prices

CD-ROM Replication Pricing Approx. 10-Day Turn Around	Quantity	Price	Price Each
	500	$849	$1.70
	1,000	$899	$0.90
	2,000	$1,499	$0.75
	3,000	$1,999	$0.67
	5,000	$2,999	$0.60
	10,000	$4,499	$0.45

Price includes 3-color CD-ROM Label.

Packaging Options	Price Each
Jewelcase with assembly and shrinkwrap	$0.25
Tyvek Sleeve with window and flap	$0.20
Tyvek Sleeve without window and flap	$0.10
Plastic Sleeve	$0.12

Jewelcase Insert Price List	Tray Only 4-color on front, nothing on back	2-Panel 4-color on front, black on back	2-Panel 4-color on front, 4-color on back	4-Panel 4-color on front, black on back
1,000+	0.50	0.80	1.00	0.95
500-999	0.60	0.90	1.25	1.10
300-499	0.70	1.10	1.40	1.25
100-299	0.80	1.20	1.50	1.40
50-99	1.25	1.75	2.05	1.95
Cardboard CD-ROM Mailers Price List	**Blank**	**1-Color**	**2-Color**	**4-Color**
1,000	0.25	2.70	2.82	3.83
5,000	0.23	0.66	0.70	0.92
10,000	0.21	0.42	0.44	0.55
25,000	0.20	0.27	0.32	0.33
50,000	0.19	0.21	0.21	0.24
100,000	0.18	0.19	0.19	0.19
Film		$95.00	$165.00	$375.00

For the purposes of this project, the highlighted prices and quantities were used. The reason for the Jewelcase insert is for a barcode and/or logo if required for an ISBN number. Therefore, see the cost per CD-ROM in lots of 1,000. It might be possible to find better and/or package pricing once the final configuration is known. **$1.90**

	Tray Only	2-Panel	2-Panel	4-Panel
For the purposes of this project, the highlighted prices and quantities were used. The reason for the Jewelcase insert is for a barcode and/or logo if required for an ISBN number. Therefore, see the cost per CD-ROM in lots of 1,000. It might be possible to find better and/or package pricing once the final configuration is known.			**$1.90**	

Jewelcase Insert Price List	**4-color on front, nothing on back**	**4-color on front, black on back**	**4-color on front, 4-color on back**	**4-color on front, black on back**
1,000+	0.50	0.80	1.00	0.95
500-999	0.60	0.90	1.25	1.10
300-499	0.70	1.10	1.40	1.25
100-299	0.80	1.20	1.50	1.40
50-99	1.25	1.75	2.05	1.95
Cardboard CD-ROM Mailers Price List	**Blank**	**1-Color**	**2-Color**	**4-Color**
1,000	0.25	2.70	2.82	3.83
5,000	0.23	0.66	0.70	0.92
10,000	0.21	0.42	0.44	0.55
25,000	0.20	0.27	0.32	0.33
50,000	0.19	0.21	0.21	0.24
100,000	0.18	0.19	0.19	0.19
Film		$95.00	$165.00	$375.00

Appendix F

Technology Access Survey Information

The following survey was sent to three separate groups, physicians who belong to AMA, infection control practitioners who belong to PEN, and state and local health departments. A random sample was drawn to

develop the mailing list for the physicians and the infection control practitioners. The survey sent to public health professions was not random, but sent to state health department epidemiologists, all local health departments, and the 120 cities that received government funded BT training prior to September 11, 2001. The department received approximately 1,000 surveys back from each of the groups. Information provided by Philip J. Ferguson, Ph.D., M.P.H., Associate Director of Science.

Physician Access to Technology at Work or Home

Technology Access	Work % (n)	Home % (n)	Either Location % (n)
Computer with CD-ROM	78.5 (884)	91.0 (1052)	91.4 (1089)
Computer with Internet	84.9 (968)	92.6 (1070)	95.1 (1133)

Physician Access to Technology at Work or Home

Physician Access to Technology at Work or Home

Technology Access	Work % (n)	Home % (n)	Either Location % (n)
Computer with CD-ROM	78.5 (884)	91.0 (1052)	91.4 (1089)
Computer with Internet	84.9 (968)	92.6 (1070)	95.1 (1133)

Preferred Method of Training by Physician Specialty for Bioterrorism Preparedness

	Family Practice % (n)	Emergency Medicine % (n)	Internal Medicine % (n)	Infectious Disease % (n)
Professional Meeting	26.8 (151)	22.7 (158)	24.1 (102)	27.1 (214)
Journal Article	14.4 (81)	11.7 (81)	13.2 (56)	15.8 (125)
Grand Rounds	6.21 (35)	4.60 (32)	14.4 (61)	12.4 (98)
Inservice	10.3 (58)	8.20 (57)	11.3 (48)	4.94 (39)
Internet	8.16 (46)	7.19 (50)	7.08 (30)	8.24 (65)
Video	6.56 (37)	10.8 (75)	8.25 (35)	7.10 (56)
CD-ROM	7.27 (41)	9.35 (65)	7.31 (31)	5.32 (42)
Table Top	6.21 (35)	9.35 (65)	2.83 (12)	7.35 (58)
Audio Recording	6.74 (38)	9.50 (66)	3.77 (16)	3.55 (28)
Case Presentation	4.79 (27)	5.04 (35)	5.42 (23)	4.69 (37)
Satellite teleconference	2.66 (15)	1.58 (11)	2.36 (10)	3.42 (27)

Table included participants who selected three or less preferred methods of educational delivery.

Preferred Method of Training by Physician Specialty for Bioterrorism Preparedness

Preferred Method of Training by Physician Specialty for Bioterrorism Preparedness

	Family Practice % (n)	Emergency Medicine % (n)	Internal Medicine % (n)	Infectious Disease % (n)
Table included participants who selected three or less preferred methods of educational delivery.				
Professional Meeting	26.8 (151)	22.7 (158)	24.1 (102)	27.1 (214)
Journal Article	14.4 (81)	11.7 (81)	13.2 (56)	15.8 (125)
Grand Rounds	6.21 (35)	4.60 (32)	14.4 (61)	12.4 (98)
Inservice	10.3 (58)	8.20 (57)	11.3 (48)	4.94 (39)
Internet	8.16 (46)	7.19 (50)	7.08 (30)	8.24 (65)
Video	6.56 (37)	10.8 (75)	8.25 (35)	7.10 (56)
CD-ROM	7.27 (41)	9.35 (65)	7.31 (31)	5.32 (42)
Table Top	6.21 (35)	9.35 (65)	2.83 (12)	7.35 (58)
Audio Recording	6.74 (38)	9.50 (66)	3.77 (16)	3.55 (28)
Case Presentation	4.79 (27)	5.04 (35)	5.42 (23)	4.69 (37)
Satellite teleconference	2.66 (15)	1.58 (11)	2.36 (10)	3.42 (27)

Preferred Method of Training for Bioterrorism Preparedness by Location for Infection Control Practitioners

	Rural % (n)	Urban % (n)	Suburban % (n)
Professional Meeting	61.1 (253)	57.0 (254)	62.0 (152)
Video	38.6 (160)	27.6 (123)	30.2 (74)
Satellite teleconference	32.4 (134)	26.5 (118)	29.4 (72)
Formal Class	17.4 (72)	25.3 (113)	26.1 (64)
Internet	25.6 (106)	19.5 (87)	22.0 (54)
Table Top	15.7 (65)	24.7 (110)	25.7 (63)
Journal Article	21.3 (88)	23.1 (103)	19.2 (47)
Case Presentation	17.9 (74)	21.7 (97)	20.0 (49)
Inservice	17.4 (72)	16.6 (74)	15.9 (39)
CD-ROM	17.4 (72)	13.0 (58)	11.8 (29)
Grand Rounds	3.4 (14)	8.1 (36)	6.5 (16)
Audio Recording	2.2 (9)	4.3 (19)	1.2 (3)

Table includes participants who selected three or less preferred methods for delivery of educational materials.

Preferred Method of Training for Bioterrorism Preparedness by Location for Infection Control Practitioners
Preferred Method of Training for Bioterrorism Preparedness by Location for Infection Control Practitioners

	Rural % (n)	Urban % (n)	Suburban % (n)
Table includes participants who selected three or less preferred methods for delivery of educational materials.			
Professional Meeting	61.1 (253)	57.0 (254)	62.0 (152)
Video	38.6 (160)	27.6 (123)	30.2 (74)
Satellite teleconference	32.4 (134)	26.5 (118)	29.4 (72)
Formal Class	17.4 (72)	25.3 (113)	26.1 (64)
Internet	25.6 (106)	19.5 (87)	22.0 (54)
Table Top	15.7 (65)	24.7 (110)	25.7 (63)
Journal Article	21.3 (88)	23.1 (103)	19.2 (47)
Case Presentation	17.9 (74)	21.7 (97)	20.0 (49)
Inservice	17.4 (72)	16.6 (74)	15.9 (39)
CD-ROM	17.4 (72)	13.0 (58)	11.8 (29)
Grand Rounds	3.4 (14)	8.1 (36)	6.5 (16)
Audio Recording	2.2 (9)	4.3 (19)	1.2 (3)

Preferred Method of Reference Material Provision for Bioterrorism Preparedness for Public Health

	State-PH % (n)	Local-PH % (n)	120City-PH % (n)	Total
Internet	59.2 (45)	51.4 (415)	51.1 (115)	51.8 (575)
Hotline/Helpline	21.1 (16)	56.6 (457)	36.0 (81)	50.0 (554)
Textbook	39.5 (30)	30.2 (244)	33.3 (75)	31.5 (349)
Pocket Card	14.5 (11)	15.6 (126)	22.2 (50)	16.9 (187)
FAX On Demand	6.6 (5)	13.2 (107)	8.9 (20)	11.9 (132)
CD-ROM	2.6 (2)	4.8 (39)	4.9 (11)	4.7 (52)
Journal Article	23.7 (18)	1.9 (15)	5.8 (13)	4.1 (46)
Electronic Organizer	5.3 (4)	1.5 (12)	5.8 (13)	2.6 (29)

Table included participants who selected three or less preferred methods of educational delivery.

Preferred Method of Reference Material Provision for Bioterrorism Preparedness for Public Health
Preferred Method of Reference Material Provision for Bioterrorism Preparedness for Public Health

	State-PH % (n)	Local-PH % (n)	120City-PH % (n)	Total
Table included participants who selected three or less preferred methods of educational delivery.				
Internet	59.2 (45)	51.4 (415)	51.1 (115)	51.8 (575)
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	State-PH % (n)	Local-PH % (n)	120City-PH % (n)	Total
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Electronic Organizer	5.3 (4)	1.5 (12)	5.8 (13)	2.6 (29)

Appendix G

Website Disaster Recovery Considerations

Disaster Recovery-A contingency plan for the Bioterrorism website needs to be looked at. After all, we are talking about disasters. Various "what if" scenarios need to be taken into account and The School of Public Health needs to decide what is mission critical and what still needs to function in a time of disaster. From there the school can decide the best option to pursue in the case of a disaster. Scenarios that should be taken into consideration are…

> What if the website was hacked by a terrorist at the same time biological agents are released?
>
> What if the data center or point where the server resides in Charlottesville is gone via a natural or intentional disaster?
>
> What if Charlottesville, or the University of Virginia were gone? This also pertains to the CDC. Where would the public turn to for direction?

Although these are scenarios that may be unlikely, they need to be addressed, and at least the appropriate risk assigned to them. People thought the World Trade Center bombing was unlikely as well. If it were not for contingency plan regulations mandated by the SEC, many of those companies may have not been able to do business for weeks or months.

Possible options could include a second data center or server setup at another site out-of-state. This could reside at another U-V location. This server could be used to do load balancing, or just used as a fail-over server in case of emergency.

Many third-party companies offer facilities that you can go to with your backups and restore your setup in a disaster mode. These types of companies supply floor space, servers, and network connections out-of-state that can be accessed in case of a disaster.

Either way the university needs to decide how important this is, research the cost, and do a cost benefit analysis for the various options.

Appendix H

Summary of "To Do's" and Recommendations

1. Research the possibility of obtaining a copyright.
   This would require re-programming the CD-ROM and removing the PEN segments from the CD-ROM and replacing them with the Bioterrorism department's material.
2. Add "hot links" to the CD-ROMs that take the user back to the Bioterrorism website. This will help keep the website in front of the customer and allow them to view additional products.
3. Add a PDA downloadable section to the CD-ROMs.

This will add value to the CD-ROMs and position the university in the future as PDAs become more popular.

4. Contact the organizations listed in Direct Sales and Marketing Information.

   Inquire about:

   - Getting hot links from their website to the University of Virginia's Bioterrorism website. It may be necessary to add a link from your website to theirs.
   - Get key individuals sample copies of the CD-ROMs and find out if their membership would be interested.
   - See if they will sponsor something in their newsletters.
   - Inquire about upcoming conferences and find out what is necessary to exhibit the product.
5. Work on getting more words recognized on search engines. See BIPO E-Commerce Marketing Strategy.
6. Obtain ISBN number.
7. Contact Barnes and Noble about marketing through their bookstores and website.
8. Add another CD-ROM to the product line tailored toward the "Tertiary" market, which includes Fire Fighters, Police Officers, and other public "1st" responders. See General Market Definitions and Customer Profiles.
9. Do an informational mass mailing to the 3,000 public health offices in the United States. Include information on the CD-ROM, website information, etc.
10. Once initial product line is complete, research implications of DVDs. This will add value, as more video time is available, however, fewer DVD players are in use.