

Proceedings of the Annual Meeting of the
National Association of Boards of Pharmacy
and the
American Association of Colleges of Pharmacy
of the Third District



*Camberley Brown Hotel
Louisville, Kentucky
August 4-6, 2002*

CO-HOSTS: Kentucky Board of Pharmacy
Thomas S. Foster, PharmD, President

and

University of Kentucky College of Pharmacy
Kenneth B. Roberts, Ph.D., Dean

PROCEEDINGS OF THE
ANNUAL MEETING OF THE
NATIONAL ASSOCIATION OF BOARDS OF PHARMACY
AND THE
AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY
OF THE THIRD DISTRICT

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Edited by Samuel T. Coker
Published in Auburn, Alabama, 2002

Sunday, August 4, 2002

11:30 am Registration

1:00 pm Welcome

 Kentucky Board of Pharmacy
 Thomas S. Foster, PharmD, President

 University of Kentucky College of Pharmacy
 Kenneth B. Roberts, Ph.D, Dean

 NABP Report

 John A. Fiacco, RPh President
 National Association of Boards of Pharmacy, Park Ridge Illinois

 Necrology Report
 Samuel T. Coker, Ph.D., Professor Emeritus
 School of Pharmacy, Auburn University
 Secretary-Treasurer, District III NABP/AACP

 Appointment of Committees

SESSION I

MODERATOR: Michael A. Mone', RPh, JD, Executive Director
 Kentucky Board of Pharmacy, Frankfort, Kentucky

EMERGENT RESPONSE TO BIOTERRORISM

2:00 pm Personal Experiences from Deployment

 Commander Lisa L. Tonrey
 President-elect, APhA USPHS Dallas, Texas

2:45 pm Break

3:00 pm Community Medical Response Plan Development

 Don B. Kupper, RPh, MBA, Administrative Director
 University of Louisville Hospital Louisville, Kentucky

3:30 pm Counter-Terrorism Pharmacy Response Plan Development

John A. Armistead, RPh, MS
Director of Pharmacy Services
University of Kentucky Chandler Medical Center
Lexington, Kentucky

4:00 pm Break

4:10 pm Panel Discussion

4:50 pm Adjournment

Monday, August 5, 2002 - Morning Session

8:00 am Registration & Continental Breakfast

SESSION II

8:30 am AACP Report

Barbara G. Wells, PharmD, President
AACP and Dean University of Mississippi
School of Pharmacy University, MS

MODERATOR: Thomas S. Foster, PharmD, President
Kentucky Board of Pharmacy Lexington, Kentucky

DEVELOPING INTERACTIVE PHARMACOTHERAPEUTIC
STRATEGIES FOR BIOTERRORISM

9:00 am Antibiotics, Biologicals, Prophylaxis

Robert P. Rapp, PharmD, Professor
University of Kentucky Colleges of Pharmacy and Medicine
Lexington, Kentucky

9:45 am Break

9:40 am USP's National Voluntary Medication Error Reporting Programs

Elizabeth P. Crowley, Pharm. D.
Director, Information Development
US Pharmacopeia
Rockville, Maryland

10:40 am Break

10:50 am Combined AACP-NABP Business Meeting

11:50 am Evaluation and Adjournment

ACKNOWLEDGEMENTS

District III of the National Association Boards of Pharmacy and the American Association of Colleges of Pharmacy expresses its sincere appreciation to the companies and organizations below who have contributed to the support of the 2002 Annual Meeting.

Abbott Laboratory
A.P.S.C.
Bergen Brunswig
Cardinal Health
CVS/Pharmacy
Eli Lilly & Co.
Kroger
Medco Health Solutions
Meijer
NACDS
Rite Aid
Target Corp.
Wal-Mart
Walgreens

**ROLL CALL OF DELEGATES OF BOARDS AND COLLEGES AND REPRESENTATIVES OF INDUSTRY
AND ORGANIZATIONS**

Alabama

Susan Alverson
Samford University

Sam T. Coker
Auburn University

Mark T. Conradi
AL Board

R. Lee Evans
Auburn University

Richard Lambruschi
AL Board

Albert C. McDonald
AL Board

Jerry Moore
AL Board

Robert H. Moore
Samford University

John G. Sowell
Samford University

Lynda C. Staggs
AL Board

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Nova Southeastern University

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University of Florida

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Doug Reid
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FL Board

John Taylor
FL Board

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KY Board

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Lexington, KY

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Covington, KY

Thomas S. Foster
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Georgina K. Jones
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Philip C. Losch
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William C. Lubawy
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Robert P. Rapp
University of Kentucky

Kenneth B. Roberts
University of Kentucky

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KY Board

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Finchville, Kentucky

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Ridgeland, Mississippi

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Brandon, Mississippi

Barbara G. Wells
University of Mississippi

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University of North Carolina

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NC Board

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Pittsboro, North Carolina

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SC Board

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Medical University of South Carolina

Farid Sadik
University of South Carolina

Sheila A. Young
Lexington, South Carolina

Tennessee

Gregory M. Chudzik
Bristol, Tennessee

James C. Eoff III
University of Tennessee

Glen E. Farr
University of Tennessee

Kendall Lynch
Tennessee Board of Pharmacy

Barbara T. McAndrew
Bandridge, Tennessee

Representatives of Industry and Organizations

Lloyd V. Allen, Jr.
Int. Journal of Pharmaceutical Compounding

David M. Banks
Simpsonville, SC

Lori A. Bickel
Washington, DC

Carmen Catizone
NABP, Executive Director

Donald B. Kupper
University of Louisville Hospital

Mike Mayes
FACHE

**Representatives of
Industry and Organizations(Cont'd)**

Kevin N. Nicholson
Alexandria, Virginia

Elizabeth P. Crowley
U.S. Pharmacopeia

Karen Nishi
Cardinal Health, Inc.

Susan DelMonico
Woonsocket, RI

Bruce Painter
Walmart

Patricia R. Freeman
American Pharmacy Services Corporation

Ruth A. Plant
Hudson, OH

John Fiacco
Cardinal Health, NABP President

Laura S. Shaw
Warren, MI

Gary Jacobi
Greenville, IN

Lisa L. Tonrey
President-elect, APHA

Howard A. Kramer
Troy, MI

Barbara G. Wells
AACP - President

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VP, American Pharmacy Services Corporation

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International Journal of Pharmaceutical Compounding

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Moderator: William C. Lubawy, Ph.D.
University of Kentucky College of Pharmacy

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DISTRICT III NABP REPORT

John A. Fiacco
NABP President

Good morning. It is a pleasure to be with you at your district meeting and bring greetings on behalf of the NABP Executive Committee and staff. In my roles as a member of the Executive Committee and New York Board of Pharmacy and Vice President for Cardinal Health, I travel frequently and visit with many different people engaged in a wide range of pharmacy activities. I am amazed at how often what is occurring nationally is actually an extension of what is happening in the states. It seems that every key issue in pharmacy is being decided or will be decided at the state level. Despite the modernization of society and global focus, the center of activity is the states. As president of NABP, that is why the NABP/AACP District Meetings are vital. On a personal note, the district meetings are also a great way to meet some of the best people in pharmacy.

For NABP and our partner in these meetings, AACP, it is also a noteworthy time. Just a few weeks ago at their July Annual Meeting, the members of AACP bid farewell and thanks to Dick Penna. Dick's career at AACP and other national pharmacy associations is one of distinction and commitment to pharmacy education and pharmacists. His recognition as this year's APhA Remington Honor Medal was most fitting and, in my opinion, his Remington address was one of the most insightful I have heard. Although Dick's retirement leaves us saddened in that we will miss his biting perspective and insight, we are excited about the selection of Lucinda Maine as AACP's new executive vice president. The AACP leadership has made an outstanding selection. Lucinda possesses the talent and foresight to continue the traditions and quality leadership of AACP. Personally, I have known Lucinda for quite some time and have been impressed with her knowledge of pharmacy education and concern for the profession. We at NABP are looking forward to continuing our strong relationships with Lucinda and AACP. Our best wishes to Dick and Lucinda during these exciting periods in their careers and lives.

The district meetings are also our source of leadership and direction. Every NABP/AACP District can boast of their share of NABP leaders and contributions that have changed NABP and consequently, the practice of pharmacy. We are fortunate to have with us at this district meeting some of those distinguished leaders, past and present. Sharing their wisdom and experience with us at this meeting are Past Presidents Gene Argo from Georgia, David Work from North Carolina, and Jerry Moore from Alabama and Executive Committee member Michael A. Moné from Kentucky. Also joining me to assist you in your discussions and interactions with NABP is NABP's Executive Director/Secretary, Carmen A. Catizone.

CONSTITUTION AND BYLAWS – WHEN WILL IT END?

It would not be a district meeting or presidential greeting without some discussion of the issues surrounding the NABP Constitution and Bylaws, specifically those provisions addressing the election and structure of the Executive Committee. As many of you know, your delegates to the Annual Meeting did not approve the amendments proposed to restructure the Executive Committee. The delegates acted so with the understanding of the commitment from the Executive Committee and me to appoint a special task force to study the Constitution and Bylaws from beginning to end and revise the Constitution and Bylaws to reflect the sentiments of the members and future directions of the Association. I am pleased to report that the Executive Committee approved my request to commission this special task force and appoint individuals to resolve this controversy once and for all. Now, that's a huge request of this task force, but I have faith in the individuals appointed and their understanding of what the members desire to be changed and what can be changed in order to preserve NABP's essence and purpose.

The special task force will meet in late September to review the Constitution and Bylaws and prepare recommendations for the Executive Committee. I assure you that there will be no sacred cows but instead the charge to prepare NABP and its members for the future that lies ahead. The task force will be further charged to consider all of the recommendations submitted by the member boards and committees in past resolutions and proposed amendments. It is our goal to create a new and dynamic document that will provide the foundation for NABP to continue its efforts to assist you in protecting the public health and maintain our considerable influence in both the national and state arenas of pharmacy regulation and practice. Although it will not be an easy task and some of the issues may not be resolved to everyone's complete satisfaction, it is my hope that the task force will base their recommendations on what best serves the Association and NABP's primary role of assisting its member boards. NABP's Constitution and Bylaws must provide the foundation for the Association to assemble the variety of interests involved in the regulation of pharmacy practice and the protection of the public health into one unified voice known as NABP.

THE IMPORTANCE AND APPLICATION OF NABP'S DATA RESOURCES

As if the revision of the Constitution and Bylaws was not enough for us to attempt in one year, the Executive Committee also approved my request to commission a task force to analyze NABP's present data resources and to review how those resources could be utilized to better assist the state boards of pharmacy in protecting the public health. Since its inception almost one hundred years ago, NABP has collected data through its programs and services that provide unique insight into pharmacists, pharmacy regulation, and pharmacy practice. How we present these data to assist you

and continue NABP as the information source for pharmacy regulation and competence assessment is the challenge awaiting this task force.

It is not hard to see that as our society completes its transition from an industrial/product to a service oriented economy, data is one of the most necessary tools and valuable commodities. The data, which NABP collects and maintains, will offer the state boards, the public, and other interested entities an insight into pharmacy regulation and competence assessment that no other organization can present. We believe that the information and activities surrounding the management of these data also offer additional opportunities to work more closely with organizations such as AACP and the American Council on Pharmaceutical Education (ACPE). Productive collaborations with these and other organizations can result in outcomes that assist colleges in their review and design of curriculums, provide valuable demographic information about pharmacists, help parents and students select the pharmacy program best suited to their needs and desires, and allow state boards of pharmacy to improve pharmacy regulation through sound research and indisputable findings.

PARTNERSHIP TO ASSIST PHARMACIST IN MANAGING THEIR CONTINUING PRACTICE NEEDS

Our internal discussions about NABP's data and appropriate application caused us to consider how NABP could assist the state boards of pharmacy and pharmacists in managing the information and data explosion and in maintaining practice currency. If you polled state board and faculty members five or ten years ago and asked them what the possibility would be of approving a program in Lebanon or recognizing the equivalency of Canadian programs, your answer, once the laughter died down, would have been an unequivocal no chance or for the more academic of our group, zero probability. As we move forward with changes like this and others in pharmacy that were unheard of or unthinkable just years ago, how pharmacists structure their continued learning is important and reflects the frequency and quality of pharmaceutical care services provided to patients.

The new reality is that events are now occurring that were predicted for some time such as the emergence of bio-engineered medications and delivery systems and the expansion of the technician's role. Coupled with the expansion of the technician's role and efforts to transfer the majority of dispensing activities to the technician under the pharmacist's supervision, the ability of the pharmacist to remain current and informed of these new practice modalities requires changes in the current operations. NABP has begun discussions with ACPE and other pharmacy associations to examine how continuing education can be revised to meet these needs and what role NABP can assume to assist pharmacists in this endeavor.

I am pleased to announce that NABP is finalizing plans to present an Internet-

based self assessment tool that will allow pharmacists across the country, in the privacy of their home or pharmacy, to self assess their present knowledge and abilities. The self-assessment can be linked to continuing education programs that meet the identified needs areas or are of interest to the pharmacist in their practice setting and patient care responsibilities. The program will be non-threatening to pharmacists and will facilitate their activities for remaining current in practice. The self-assessment mechanism will also provide an opportunity for NABP to collaborate with ACPE and other pharmacy organizations to completely revamp continuing education.

There is an essential element to this initiative and its success ... the state boards of pharmacy. NABP needs your support and involvement for this project to succeed. If we do not move forward together on this project, then opportunities will be lost and other groups will certainly take advantage of the vacuum created. Our opportunity to redesign the present system and provide pharmacists with an invaluable tool will move to other groups whose primary interest may not be improving the public health but instead advancing their financial and proprietary agendas.

In the next few weeks more definitive information will be made available on this new service and effort with the profession. The Executive Committee and I are asking for your full support. I am hopeful that with your input and backing we can develop a program that will allow state boards of pharmacy and pharmacists to work together to continue to serve their patients competently.

I wish you a very successful and productive meeting. Thank you.

NECROLOGY REPORT

Samuel T. Coker
Auburn University

Auburn University

Dr, Leon Wilken Jr., Professor Emeritus of Pharmaceutics and Manufacturing Pharmacy. B.S. Loyola University, M.S. & Ph.D. University of Texas. Retired 1991 after 28 years of service. He was 77 years of age.

Campbell University

Gary Dunham, PharmD, Associate Professor, Pharmacy Practice. Died July 25, 2002.

University of Georgia

Dr. Albert Jowdy, Jr., Professor Emeritus of Pharmacy Care Administration. He received a B.S., M.S., and Ph.D. in Pharmacy from University of North Carolina and remained on the faculty for 10 years. He retired in 1985 from the University of Georgia after 19 years of service. He was 79 years of age.

University of Tennessee

Dr. James Holt, Pharm.D., BCPS Associate Professor Pharmacy Practice and Pharmacokinetics and Clinical Specialist VAMC, Memphis. Served 17 years.

Alabama Board of Pharmacy

Carl L. Limbaugh, Drug Inspector, age 81. He was a retired lieutenant from the Birmingham Police Department with 27 years of service and a drug inspector for the Alabama Board of Pharmacy for 25 years.

James Williams (J.W.) McLane, Jr. Served as Executive Secretary of the Alabama Board of Pharmacy for 19 years. Colonel McLane also served 34 years in the military and was among those who landed on D-Day on Utah Beach.

Byron Thomas (Tom) Alford, immediate past president of the Alabama Board of Pharmacy. Tom served 5 very progressive years on the board. He, his wife and two daughters were killed instantly this summer when a tractor-trailer truck crossed the median of Interstate 20 and hit their car.

Malvin Goldstein - Served as president of the Board of Pharmacy, was co-founder of the Alabama Pharmacy Association and served as treasurer of APA for several years. He received many awards, the most recent was the Bowl of Hygiea. He was 73.

Florida Board of Pharmacy

Jack Jones - Member of the Board 1970-1973. President of the Board in 1973

Mississippi Board of Pharmacy

Walton A. Biggs, Jr., R.Ph. - Age 61. Served the Board 38 years.

Charisma Pope - P-6 pharmacy student. Died as a youth of 25. She was scheduled to graduate in August 2002.

James R. Haines, R.Ph., age 39. Served the board 1998-2001.

Bruce Parks, Jr., R.Ph., age 63. Served the board 1974-2001.

William S. Hodges, R.Ph., age 73. Served the board from 1970 until his death.

North Carolina Board of Pharmacy

Dr. Jesse M. Pike, Sr., age 82. Served on the Board of Pharmacy from 1968-1977. He received his B.S. in Pharmacy from University of North Carolina at Chapel Hill and an M.S. from Western Reserve University in Ohio. He was also a friend of Campbell University School of Pharmacy where he received the honorary Doctor of Science degree.

Tennessee Board of Pharmacy

Clarence A. Doerr, R.Ph. Member of the Board - President in 1970. He served from 1965 to 1971. He was 88.

Are there others?

Please rise for a moment of silence in memory of our departed friends and colleagues. Dear Lord, we thank you for these lives who have served you and their communities through their profession. Amen.

DISTRICT III NABP/AACP COMMITTEE APPOINTMENTS

Time & Place Committee

Ted Matthews, Dean, Mercer University, Southern School of Pharmacy
Jeff Lurey, President, Georgia Board of Pharmacy

NABP/AACP Joint Resolutions Committee

Kendall Lynch, Chair, Tennessee Board of Pharmacy
Gail A. Smith, Florida Board of Pharmacy

NABP Nominating Committee

D. Frank Landrum, Chair, Georgia Board of Pharmacy
Betty Dennis, North Carolina Board of Pharmacy
Joe Carr, Kentucky Board of Pharmacy

Audit Committee

Bobby Parrado, Chair, Florida Board of Pharmacy
Tim Armstrong, Kentucky Board of Pharmacy
George Francisco, University of Georgia College of Pharmacy


EMERGENT RESPONSE TO BIOTERRORISM

MODERATOR: Michael A. Mone', RPh, JD, Executive Director
Kentucky Board of Pharmacy Frankfort, Kentucky

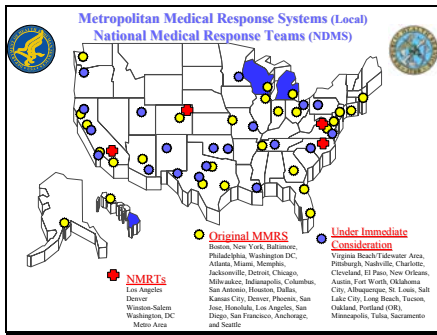
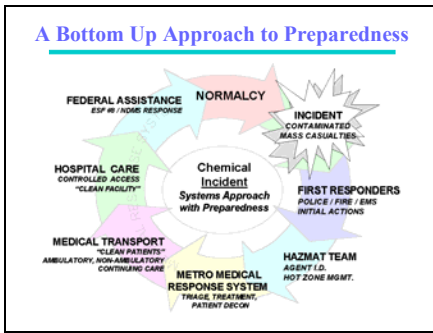
Personal Experiences from Deployment

Commander Lisa L. Tonrey
President-elect, APhA USPHS Dallas, Texas

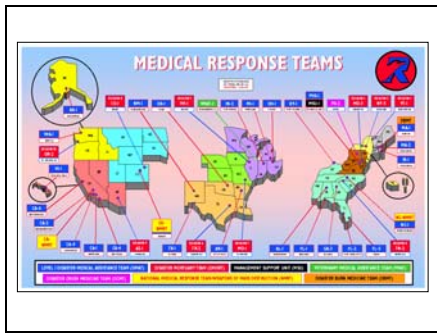
Personal Experiences from Deployment



Capt. Lisa L. Tonrey, MHA, RPh
President-elect, APhA
USPHS
Dallas, Texas



Disaster Medical Assistance Teams (DMATs)



DMATs are volunteer teams called to provide austere medical care in a disaster area or medical services at transfer points and reception sites associated with patient evacuation.

Hospitals, volunteer agencies, or health and medical organizations can form DMATs from interested professional and para-professional medical personnel. Each team generally consists of 35 persons per deployment.

Team members are trained to respond to a disaster as an organized group.

The members consist of physicians, nurses, pharmacists, technical staff, and other health professionals.

Surveillance

Pharmacists are positioned to report any large surges in purchases of OTCs, specifically for fever, pain, or diarrhea.

Mass Medication

- Pharmacists should be involved in the planning for large-scale distribution and dispensing in the event of a disaster

Areas of Involvement

- Break down of the Push Packs
- Manning distribution centers
- Clarifying state rules and regulations for Rx labeling and who can dispense in emergency situations
- Compounding Issues: develop plans for patients with special dosage form needs (i.e. pediatric patient needs)

NPRT

National Pharmacist Response Teams

NPRT Role

- For mass chemo-prophylaxis or mass vaccinations
- The goal is to be up and running by year end

10 NPRT Regional Teams to correspond with the 10 Regional Areas.

Pharmacist to send an application to the closest administrative officer.

Hurdle

Access to licensure information

National Council of State Boards of Nursing allow a credentialing body to access information via Internet to validate licensure

Name, address, e-mail and phone number to:

**National Pharmacist Response Team
12300 Twinbrook Parkway
Suite 360
Rockville, MD 20857**


Web Sites

- DMAT Information
 - <http://ndms.dhhs.gov>
- CDC Bioterrorism Preparedness and Response
 - <http://www.bt.cdc.gov>
- American Pharmaceutical Association
 - www.aphanet.org/pharmcare/responsecenter

Community Medical Response Plan Development

Don B. Kupper, RPh, MBA, Administrative Director
University of Louisville Hospital Louisville, Kentucky


Community Medical Response Plan Development



Don B. Kupper, RPh, MBA
Administrative Director
U of L Hospital
Louisville, Kentucky

Bioterrorism Preparation
Weapons of Mass Destruction
Louisville/Jefferson County
Medical Response Task Force

Don B. Kupper, RPh, MBA
Administrative Director



Objectives

- Counter terrorism: ASHP Leadership Agenda
- Perspectives from the Office of Public Health and Science
- Key Challenges
- Louisville/Jefferson County Plan
- Call for Pharmacist Action

American Society of Health-System Pharmacists Leadership Agenda 2002 –2003

- Addresses the following
 - Focus Pharmacist Involvement, Immediate Response Challenges, External Medical Supplies, Communication, Transportation, Drug Shortages, Pediatric Doses, and Vaccines
- ASHP: Continues to update web site, developing electronic communication network

Perspectives

Arthur Lawrence - Acting Principal Deputy Assistant Secretary of Health, Office of Public Health and Science

- Federal Planning: "Well defined, well developed, well exercised preparedness plan."
- Local Government: "On their own for 2-5 hours, must be well organized, the federal government does not take over, we work for the Governor."
- Pharmacists: Role from planning to dispensing "Synthesis of science; translate technical knowledge into practical application."

American Society of Health-System Pharmacists Key Challenges

- Complexity and full context of medication use process not appreciated: "drug products not jelly bean commodities"
- Limited Pharmacist involvement in state and local emergency response planning
- Limited Clinical experience to define: optimal treatment, NPS contents, drug shortages, vaccines not available commercially

American Society of Health-System Pharmacists Key Challenges

Metropolitan Medical Response System (MMRS)

- ✓ Medication use protocols for first responders, chemical antidotes, mass immunization, and prophylaxis campaign, for 1000, 10,000, and 100,000 patients
- ✓ Medication inventories, hospitals, wholesalers, computer network to access supplies
- ✓ Pharmacy personnel resources, hospital, community, pharmacy association; REGULATION WAIVERS

American Society of Health-System Pharmacists Key Challenges

NPS Deployment Plans

- ✓ Sites, personnel and systems for NPS staging and distribution
- ✓ System design for patient triage, documentation, labeling, education, dispensing, and follow-up

American Society of Health-System Pharmacists Key Challenges

GAPS and Vulnerabilities Identified

- ✓ Need for constant exchange of information
- ✓ Managing first responders inventory
- ✓ Collect and publish best practices, develop a plan you do not want to engage
- ✓ Roles of the front line pharmacist
- ✓ What will happen in two years?

Hospital Readiness

- Community Based
- Facility Assessment
- Medical Staff
- Nursing Staff
- Ancillary Staff
- Durable Medical Equipment
- Supplies
- Security
- Command System (HEICS)

The Communities' Plan Starts with Data Collection

ANYTOWN Area Hospital Emergency Pharmaceutical Inventory First Responder Plan

AREA HOSPITAL EMERGENCY PHARMACEUTICAL INVENTORY

Sample Form
Use Excel/Lotus to Develop Information
Hospital Inventory
See Packet for Sample

Hospital	Director	Alternate Provider	Making Protocol	Atypical Item	Out/Down	Down IV	Phone	7-24AM	Down Off 24HR	Quintiles	Communication Device	Location	Contact
Southland	Tim	Yes/No	Yes/No	300	200	80	50	3	Back Door	444			
Hospital	Dingle								Pharmacy	5050			

FIRST RESPONDER DELIVERY SCHEDULE AND LOCATION

Sample Form
Use Excel/Lotus to Develop Information
See Packet for Sample

AGENCY	DELIVERY LOCATION	ADDRESS	PERSONNEL	PLUS DEPENDENTS	DOSES	550/100
FBI	WILLIAMS BLDG	500 22 ND ST	100	500	5000	10050
SHIVELY FIRE DEPT.	O'DANIEL BLDG	100 PARK RD	500	2500	25000	500250

Sample Prescription Label (Avery 5163 Laser Label)

For First Response and Community MASS Prophylaxis Distribution

R_x # _____ Date _____

Prescriber: _____

Patient Name: _____

Take (1) tablet by mouth Once or TWICE a day until gone.

QUINOLONE 500mg Tablet or DOXYCYCLINE 100mg TAB
QTY _____

Take with or without food, but not with milk alone. Drink lots of fluids. Avoid long times in sunlight while on this medicine. Avoid antacids with magnesium or aluminum.

*Patient Education Sheets
See Handouts*

*Mass Distribution
Drug Accountability Log
See Handout*

*National Pharmaceutical Stockpile
Push Pack*

**How Can a Pharmacist Prepare
For a Bioterrorism Attack?**

- Education through journals, internet, and presentations
- Get involved with your communities' planning
- Resources/share them - do not compete for resources
- Know how and who to contact at your public health departments, hospitals, and law enforcement
- Local communities are requesting state government to draft emergency orders and relax our laws, specifically labeling, during an emergency event

**What Opportunities
Are There For Pharmacists?**

- Provide education to customers, patients, family, and friends
- Future Small Pox vaccination program
- Get involved as a volunteer for mass distribution of medication. Contact Don Kupper - dkupper@uflh.org or (502) 562-3653

Questions?

Counter-Terrorism Pharmacy Response Plan Development

John A. Armistead, RPh, MS
 Director of Pharmacy Services
 University of Kentucky Chandler Medical Center
 Lexington, Kentucky


Counter-Terrorism Pharmacy Response Plan Development



John A. Armistead, MS, RPh, FASHP
 Director, Pharmacy Services
 Assistant Dean for Medical Center Pharmacy Services
 UK Medical Center
 Lexington, Kentucky


Objectives

- Identify components of a pharmacy command center and counter-terrorism pharmacy plan development
- Understand and apply scenario based planning in estimating counter-terrorism pharmaceutical needs in your community
- Identify issues which must be presented to the state board of pharmacy




Pharmacy Counter-Terrorism Committee

- City-wide, regional
 - Health-systems, health departments, inpatient and outpatient facilities, professional societies, colleges/university
 - Report to city-wide, regional emergency management committees/departments
- Emergency management personnel
 - Attendance
 - Constant communication




Pharmacy Counter-Terrorism Committee

- Administrative and clinical practitioners
- Monthly meetings
- Updates on drug inventories
- Discussion on scenarios
- Establishing hospital participation (inventory targets) and county emergency management needs
- Learning about and acting on unique community risks




Lexington/Fayette County Kentucky Risks

- National threats
 - Weapons of Mass Destruction
- Bluegrass Army Depot
 - Organophosphates
 - Nerve Gases
- General Electric Plant
 - Hydrofluoric acid




Drugs Inventoried

- Formerly inventoried all specified drugs
- Change to all "reserved medications"
 - i.e. Not active stock
- Expiration dating documented on "reserved medications"
- Monthly at first, now quarterly
- Creation of an e-mail group ("list serve")
- E-mail updates and transmission




Pharmacy Command Center

- Coordination of city, county or regional pharmaceutical distribution of medication in case of a terrorism event
- Coordination of drug information access
- Coordination of personnel efforts to assist in meeting goals for medication distribution and drug information




Pharmacy Command Center

- Site identification
 - Primary and Alternate(s)
 - Distance relationship
- Telephones - Separate Land Lines for:
 - Administration/Organization/Policy
 - Board of Pharmacy Communication
 - Personnel Resources/Volunteers
 - Health Care Professionals
 - General Public
 - Media (if appropriate)




Pharmacy Command Center

- Access to information
 - Internet
 - Texts, reference books
 - Hard copy information
 - CDC information, Emergency Plans, etc.
- Transmission of information
 - Fax, E-Mail, Telephone, Pagers, Cell Phones, Street Addresses, Alternate Communication Methods

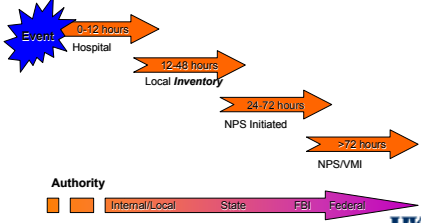



Pharmacy Command Center




- Drug Information
 - Drugs of choice
 - Dosing, frequency, duration
 - Routes of administration
 - Dosage forms
 - Pediatric application
 - Compounding (if appropriate)
 - Healthcare professional information
 - Patient information



Time Frames of Distribution and Authority





Metropolitan Medical Response Systems


What is NPS?

- National Pharmaceutical Stockpile
- Established in 1999
- Available to local health departments through federal decision
- Contain "push packages" available within 12-24 hours of the federal decision





“Push Packages”



- Contain pharmaceuticals, IV supplies, airway supplies, bandages and dressings
- Among the medications are items such as:
 - doxycycline, ciprofloxacin, gentamicin, dopamine, albuterol, lorazepam, morphine, atropine, diazepam and pralidoxime
- Counting machines, volumetric devices, packaging and labeling machines
- Written provider and patient information



NPS STORAGE

LOADING NPS





NPS TRANSPORT





What is VMI?

- Vendor Managed Inventory
- Designed to be a “cushion” for NPS
- Generally will take 24-36 hours after the decision has been made to mobilize stock
- Usually more specific than NPS (“tailored” to the event)




Scenario Based Planning

- Reasonable for the community
- Realistic opportunity for mass exposure
- Individualize
- Handle and treat victims and first responders




Anthrax Scenario

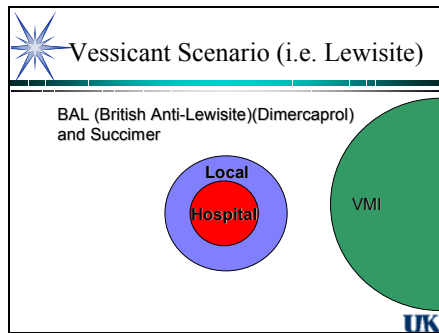
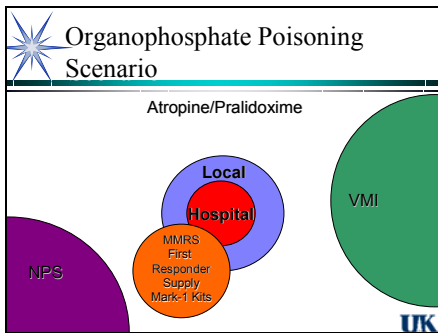
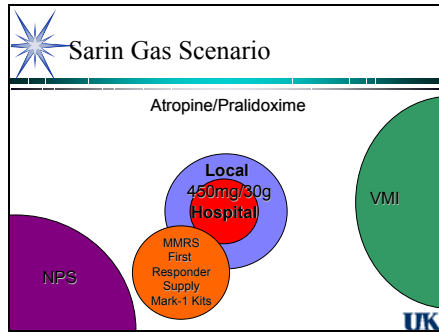
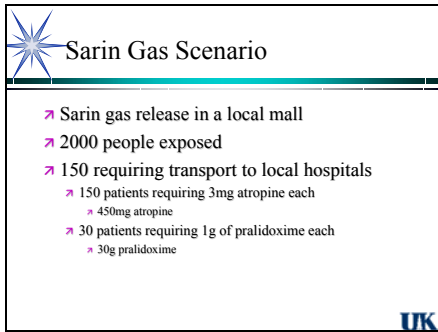
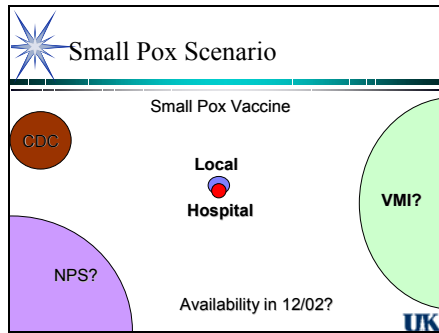
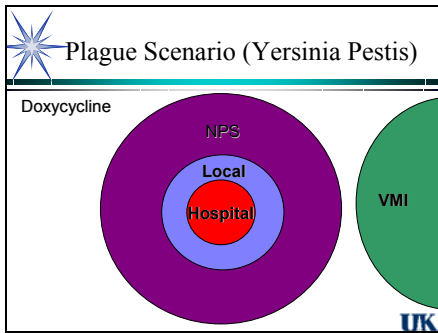
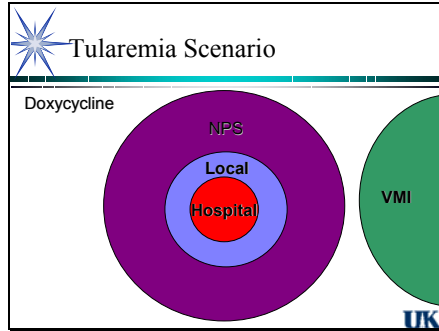
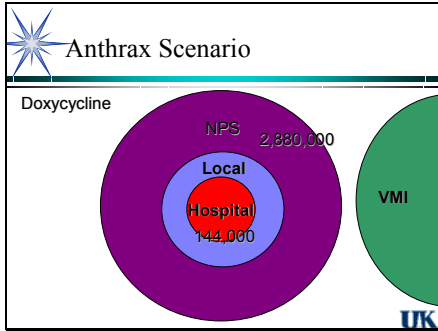
- Dissemination of anthrax powder at a university basketball game (Lexington, KY)
- 24,000 people exposed
- Need to provide antibiotics
 - 3 day local supply
 - 60 day NPS
 - Doxycycline selected as initial exposure drug of choice
 - 100mg PO BID x 3 days, then 57 day follow-up
 - $24,000 \times 3 \times 2 = 144,000$ capsules needed

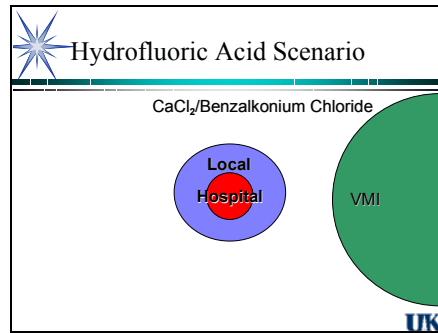
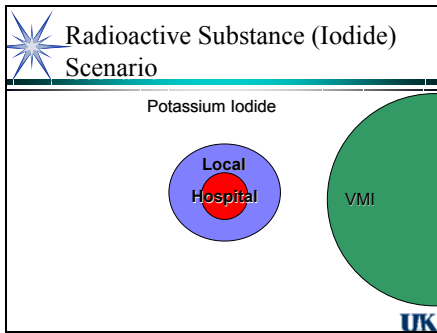
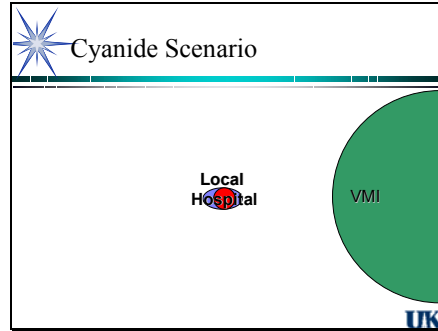
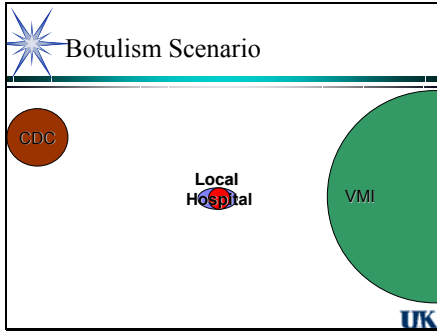


Anthrax Scenario

- Dispensing container - zip lock bags - 24,000
- Dispensing records
- Drug information sheets - 24,000
- Adaptation of dosing for pediatrics
- Temporary distribution sites required, located away from the hospitals
- Volunteer staff required (training)










- ### A Case Example
- Lewsite incendiary device
 - Courthouse/jail scenario in Lexington, Kentucky
 - 50-100 affected
 - Antidote availability
 - Mobilization of drug supply
 - Access to supply outside the region
 - Communication
 - Fax, e-mail, phone, pagers, etc.
- The 'UK' logo is in the bottom-right corner.

- ### Other Considerations
- Other medications
 - Silver sulfadiazine cream (burns/explosions)
 - Povidone iodine (antibacterial)
 - Supplies
 - Drug delivery devices
 - Contamination or other lack of availability
 - Not centralizing all medication "stockpiles"
- The 'UK' logo is in the bottom-right corner.





Other Considerations

- Dispensing containers
- Patient information flyers/labels/inserts
- Volunteer Staff
 - College of Pharmacy
 - College of Nursing
 - Professional Society
- Temporarily designated facilities
 - Security, Access, Parking



Every Director of Pharmacy Should:

- Become informed of local health plans for emergency preparedness, especially related to pharmaceuticals
- Ensure hospital plans are coordinated with local (especially other hospital pharmacies), state and federal plans
- Ensure appropriate stock is on hand
- Avoid stockpiling without regard to local plans


Issues to Bring to the Board of Pharmacy

- Lack of individual patient prescriptions (using the health director's authority)
 - Labeling of pharmaceuticals
 - Recordkeeping
- Suspension of safety cap requirements
- Suspension of affixation of label requirements
- Dispensing from temporarily designated dispensing facilities
- Pharmacist role in mass vaccination (i.e. small pox vaccine)

Useful References

- Terriff, CM and Tee AM. Citywide Pharmaceutical Preparation for Bioterrorism. AJHP 58: 2/1/01 p233-7.
- ASHP Statement on the Role of Health-System Pharmacists in Counterterrorism. AJHP 59: 2/1/02 p282-3.
- Summary of the Executive Session on Emergency Preparedness and the Pharmaceutical Supply Chain. AJHP 59:2/02 p247-53.





Barbara G. Wells, PharmD, President
AACP and Dean University of Mississippi
School of Pharmacy University, MS

**REPORT OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY
TO THE NABP/AACP DISTRICT MEETINGS 2002**

On behalf of the membership, the Board of Directors of the American Association of Colleges of Pharmacy is pleased to participate in the NABP/AACP district meetings again this year to convey greetings and provide an update on AACP activities of interest to NABP and the colleges and schools. In the past year we've seen substantial progress on a variety of fronts as AACP continues its collaboration with other organizations in pharmacy to influence change in the health care system to improve the quality and safety of medication use and address the growing demand and changing roles for pharmacists. Policymakers, other health professionals, regulators, and the public are increasingly hearing our message that pharmaceutical care is an answer to the quality chasm in health care.

For meaningful progress to occur, the dialogue must be strong locally as well as nationally. NABP/AACP district meetings provide a forum for collaboration between the membership of our two organizations. Fostering dialogue at these meetings remains an important strategic initiative for AACP. A presidential officer or senior AACP staff member is participating in each of the district meetings again this year. External forces that inevitably impact both the educational and regulatory sectors of pharmacy present both challenges and opportunities and affect our strategic goals and agenda for action. The dialogue fostered at these meetings has enhanced understanding and enabled substantial progress on key issues including evolving models of health care delivery, patient medication safety, proposals for significant change in federally supported health care programs, the growing demand for pharmacists, the expanding role of technicians and automation in the provision of pharmacy services, and regulatory mandates such as HIPAA which directly impact both practice and education. The size and nature of the pharmacy profession are such that factors affecting any component of pharmacy inevitably impact others as well. Collaboration is necessary for our success as a profession.

Educational Programs – Evolution from Curricular Change to Assessment for Quality Improvement

Curricular evolution continues to characterize much of the effort and focus of AACP members as we near the end of the transition to the Doctor of Pharmacy (Pharm.D.) as the sole professional degree in pharmacy. This fall, the Doctor of Pharmacy degree will be the sole professional degree program offered to matriculating students. There has been an enormous commitment of time, people, and resources by AACP member colleges and schools to the process of curricular innovation and assessment. AACP has served its members' needs in this area through resources such as the Center for the Advancement of Pharmaceutical Education (CAPE) Educational Outcomes; programming at our interim and annual meetings and our annual Teachers Seminar; and our innovative AACP Institute. The Institute program fosters improvements in planning, teaching, assessment and leadership to enhance student learning.

Two AACP 2001-02 standing committees (Academic Affairs and Professional Affairs) identified new, relevant areas for consideration by faculty members for inclusion in the professional curriculum. In envisioning future practice scenarios that maximize the pharmacist's contribution to healthcare, the Professional Affairs Committee determined there are gaps in the current CAPE Educational Outcomes document (revised in 1998) relative to the pharmacist's role and responsibilities for medication safety systems management, health literacy, cultural competence, preventive medicine, technology applications to practice, and interprofessional collaborative drug therapy practice. The Academic Affairs Committee recognized the emerging areas of pharmacogenomics and pharmacogenetics. Both committees recommended that the CAPE Advisory Panel on Educational Outcomes be reconvened to examine the *Educational Outcomes* to ensure that they maintain contemporary validity relative to roles and responsibilities of pharmacists and requisite knowledge base. The Board of Directors acted on this recommendation at their July meeting.

Developing valid and reliable data for quality assessment and improvement is a high priority. To support the efforts of our member schools, we are collaborating with the American Council on Pharmaceutical Education (ACPE) to identify the most relevant data to assist schools in assessing their program processes and outcomes. A joint AACP/ACPE task force worked this past year to match data elements to specific accreditation standards and to recommend specific changes and additions to AACP's existing institutional research activities. This collaborative effort will enhance both the quality and quantity of information available about colleges and schools of pharmacy, their graduates and their programs for use by the institutions themselves, ACPE, and the profession as a whole.

Pharmacy Workforce Issues – Implications for Pharmaceutical Education

Increased career opportunities in an expanding health care system coupled with an increasing volume of prescriptions have contributed to an unprecedented demand for pharmacists and for pharmaceutical care services. The impact that pharmacists can have on the health outcomes of individual patients has never been greater. Although the overall number of graduates has grown in the past decade and America's colleges and schools of pharmacy continue to graduate pharmacists at a rate that provides more pharmacists per 100,000 population than ever before, vacant positions exist across the full range of pharmacy practice sites.

Since the Bureau of Health Professions issued its report concerning the pharmacist shortage in 2000, pharmacy workforce issues continue to command attention beyond the boundaries of the profession. As a result of the workforce issues, pharmacy is garnering more media exposure. PMP sponsored workforce projects are making substantial contributions to the literature and contributing to the heightened visibility of pharmacy and recognition of the importance of pharmacy services in the healthcare system. The on-going Web-based demand index (The *Aggregate Demand Index (ADI) Project*) under the direction of PMP consultant Dr. Katherine Knapp (Western University of the Health Sciences) has a new enhanced website: www.pharmacymanpower.com. Two recent publications generated from PMP-funded projects may be accessed in .pdf format at: www.aphanet.org through the JAPhA link :

Knapp KK, Livesey JC. The Aggregate Demand Index: measuring the balance between pharmacist supply and demand. *J Am Pharm Assoc.* 2002;42:391-8.

Schommer JC, Pedersen CA, Doucette WR, et al. Community pharmacists' work activities in the United States During 2000. *J Am Pharm Assoc.* 2002;42:399-406. (Note: Dr. Craig Pedersen (Ohio State) directed the PMP sponsored *National Pharmacist Workforce Survey: 2000.*)

In fall 2001, the PMP conducted a conference to define the profession's estimate of the long range future need for pharmacists. The *Professionally Determined Need for Pharmacy Services in 2020* conference, under the direction of Dr. David A. Knapp (Maryland), was held in October 2001. Invited experts gathered to consider what patients are asking from the profession and will need from the profession 10-20 years out, given changes in healthcare, demographics, science and technology. Dr. Knapp presented his report to the PMP Board of Directors at their annual meeting in June. Conference proceedings will be released in the fall. Preliminary estimates suggest that the strong demand for pharmacists will continue well into this century. Although the conference projections reflect changes in need for pharmacy services in a 10-20 year window, there are immediate implications for educators and boards of pharmacy as they plan for our profession's future. Educational capacity, appropriate use of technicians, acceptable uses for technology applications, systems management and efficiencies to ensure patient safety are but some of the obvious areas for concern and planning.

As a founding member and secretariat of the PMP, AACP regrettably acknowledges NABP's decision to withdraw from PMP during 2001-02. The organization's support and advice through the years has been critical to the success of the initiatives that PMP implemented. We hope that the PMP may continue to draw upon NABP's unique perspective and resources for assistance regardless of formal membership status and welcome NABP to rejoin at any time.

Building Capacity – Student Recruitment

It is a strategic goal of AACP to ensure that colleges and schools have an adequate number of qualified students to fill their classes and meet society's need for pharmaceutical care practitioners. This commitment is intensified by estimates of continued strong demand over the next 10-20 years. We are pleased to report that applications to colleges and schools increased by 9.1% in the 2000-01 academic year following a 6-year decline. PCAT registrations are the highest since 1996. To address the issues of student recruitment and reliable applicant pool data, AACP coordinates national recruitment and student

information activities. AACP is developing the Pharmacy College Application Service (PharmCAS) that will allow applicants to use a single web-based application and one set of materials to apply to multiple Pharm.D. degree programs. PharmCAS offers a professional website (www.pharmacas.org) for applicants, advisors, and participating schools; a web-based application; central application processing; course-by-course transcript verification; electronic transmission of application data to participating schools; admissions software for participating schools; on-line reporting of final admission decisions for shared applicants; and dedicated customer support services. To date, thirty-nine (39) colleges and schools of pharmacy have committed to participating in PharmCAS in 2003 for fall 2004 enrollment. The centralized application service offers member institutions, applicants, advisors, and the AACP office valuable benefits in terms of facilitation of the admission process, student recruitment, and data collection.

Good planning requires good data. Historically, in pharmaceutical education, we have not had good information about the size and composition of the applicant pool. The centralized application service will simplify and facilitate the application process for prospective students and provide solid information on changes in the size and demography of the pharmacy applicant pool over time for the academy.

Legislative Agenda – "Pharmacy Education Aid Act of 2001," H 2173, S 1806

The needs identified in the HRSA report on pharmacy manpower provided an excellent platform on which AACP could work to expand the government's awareness of the educational programs offered by our members and we have moved forward in the past year with an aggressive legislative agenda. Increasing the supply of pharmacists is a long-term process that requires attention to four main areas: recruitment and retention of faculty; updating and expanding the physical plant of colleges and schools of pharmacy; increasing the number of individuals applying to colleges and schools of pharmacy; and improving policy makers' understanding of pharmaceutical education and the capabilities of its graduates. Congressman James McGovern (D-MA) and Congressman Michael Simpson (R-ID) introduced legislation (H2173) aimed at increasing the number of pharmacists graduating from the nation's 85 accredited colleges and schools of pharmacy. Senators Reed (D-RI), Johnson (D-SD), and Enzi (R-WY) sponsored S1806. AACP worked closely with staff to assure that the legislative language was appropriate to pharmaceutical education's needs. This legislation will help increase the capacity of existing colleges and schools of pharmacy by providing federal support for 1) renovation and expansion of facilities, 2) loan repayment as an incentive to recruit and retain qualified faculty, 3) improved information systems to increase educational opportunities, and 4) student scholarships to encourage pursuit of pharmacy as a career. The "Pharmacy Education Aid Act of 2001" (H2173 and S1806) offers solutions for ensuring that qualified individuals interested in pharmaceutical education are able to be educated in the appropriate environment by high quality faculty.

The bills also address the need for all communities, including the underserved, to benefit from the access to pharmacist services, by making pharmacists eligible for participation in the National Health Service Corps (NHSC) and requiring colleges and schools to make a commitment to the underserved. Making pharmacists eligible for programs like NHSC loan repayment will provide communities, at risk of losing access to pharmacy services, with the opportunity to seek placement of a pharmacist in their community.

AACP also worked with Energy and Commerce committee staff to develop pharmacy workforce legislation (H4992). The legislation would:

- authorize the Secretary of HHS to develop and fund public service announcements aimed at increasing the number of individuals interested in seeking a pharmacy education;
- establish a demonstration project that would make pharmacists eligible to participate in the National Health Service Corps loan repayment program; and
- authorize the creation of grants to colleges and schools of pharmacy to improve their information systems.

In March, AACP organized a congressional staff briefing to define the pharmacist's critical role in health care (Pharmaceutical Education and Pharmacy Practice: Improving Health Outcomes through Provision of Comprehensive Pharmacy Care). While AACP's primary goal was to develop congressional support for the colleges and schools of pharmacy in their efforts to increase capacity, the briefing fulfilled a broader agenda of raising congressional awareness of the increasing number of career opportunities for pharmacists where their primary responsibility is to improve patients' health and quality of life through pharmaceutical care.

Leadership Agenda – Executive Vice President Transition

The passing of the leadership torch always marks a milestone in the life of any organization. Executive Vice President Dick Penna retired on June 30, 2002 after serving AACP as CEO since 1995. Under Dr. Penna's leadership the association has advanced in influence and vision. The AACP Board of Directors selected Dr. Lucinda L. Maine as the next executive vice president to succeed Dr. Penna. Dr. Maine assumed her new leadership role on July 1st of this year. Dr. Maine, formerly senior vice president at APhA, comes to AACP with significant pharmacy leadership experience.

Looking Ahead—Accreditation , Accountability, Quality Assurance

A historic and significant collaboration between AACP, NABP and APhA resulted in the founding of ACPE, the accreditation body for pharmaceutical education. Recognizing a need for the three communities—education, practice, and regulation—to commit to ongoing and focused strategic dialogue, the AACP Board of Directors has authorized AACP to convene regularly scheduled executive level joint meetings of the founding organizations of ACPE (i.e., AACP, APhA, NABP) with ACPE leaders.

* * *

In summary, it has been a challenging and busy year marked by significant progress in strategic goals. The future looks equally busy and promising. As we continue to work together, patients and pharmacists alike will benefit from our joint efforts to promote practice, education and scholarship to assure the rational, safe, and effective use of medicines.

From the Board of Directors and staff of AACP, best wishes for a successful meeting.

DEVELOPING INTERACTIVE PHARMACOTHERAPEUTIC


STRATEGIES FOR BIOTERRORISM

MODERATOR: Thomas S. Foster, PharmD, President
Kentucky Board of Pharmacy Lexington, Kentucky

Antibiotics, Biologicals, Prophylaxis

Robert P. Rapp, PharmD, Professor
University of Kentucky Colleges of Pharmacy and Medicine
Lexington, Kentucky

Antibiotics, Biologicals, Prophylaxis



Robert P. Rapp, PharmD
Professor, Medicine and Pharmacy
UK Colleges of Pharmacy and Medicine
Lexington, Kentucky

"I do not believe it is a question of *whether* a lone terrorist or terrorist group will use infectious disease agents to kill unsuspecting citizens; I'm convinced it's really just a question of when and where."

-Michael Osterholm from *Living Terrors*

Objectives


- Identify agents likely to be used in bioterrorism acts.
- Identify currently available antimicrobial agents active against likely bioterrorism agents.
- Understand adverse effects of antimicrobial agents likely to be needed in the event of a bioterrorist attack.
- Review experience with antimicrobial agents used in recent anthrax attacks.

Ideal Weapon of Mass Destruction

- Easily to obtain, inexpensive
- Safe for the "handler"
- Undetectable or delayed detection
- Aerosolize or distribute over large areas
- Extremely contagious
- High morbidity and mortality
- No antidote or treatment
- Cause anxiety, panic and social unrest


Dilemmas

- Range: hoax → false alarm → event
- Difficult to distinguish from naturally occurring ID outbreaks
- Who was actually exposed?
- Patient isolation: too late or impractical?
- Medical system/community-unprepared

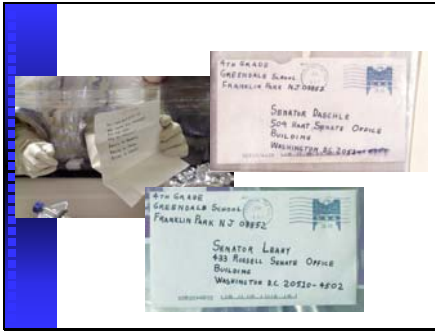


Biological Organisms

<ul style="list-style-type: none">Most likely<ul style="list-style-type: none">anthraxbotulinumplaguesmall poxtularemia	<ul style="list-style-type: none">Less likely<ul style="list-style-type: none">brucellosisQ feverStaph enterotoxin Bviral encephalitisviral hemorrhagic fevers
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Biological and Chemical Terrorism: strategic plan for preparedness and response: recommendations of the CDC strategic planning workgroup. MMWR.2006; 15(14):1-14.



Anthrax

- *Bacillus anthracis*
- The Bad News
 - ◆ Inhalation cases carry high mortality
 - ◆ Several countries have developmental programs
- The Good News
 - ◆ Not contagious

Anthrax

- Form spores that can survive harsh conditions
- Primary routes of infection
 - ◆ Inhalation
 - ◆ Ingestion
 - ◆ Cutaneous

Anthrax Clinical Course

- Cutaneous
 - ◆ Various lengths of incubation (up to 14 days)
 - ◆ Small papule resembling insect bite
 - ◆ Depressed center becomes necrotic
 - ◆ Not painful
 - ◆ Mortality 20% vs. 1% (with therapy)

Bartlett, et al. Clinical Anthrax: Primer for Physicians

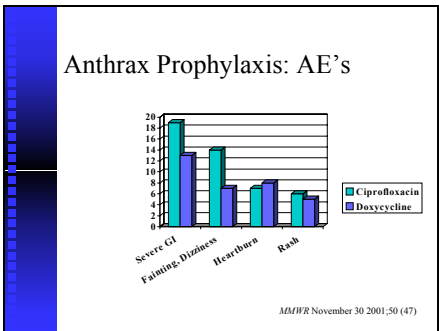
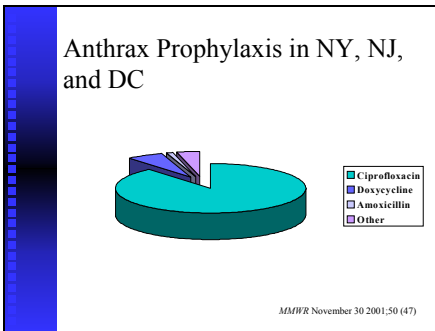
Anthrax Clinical Course

- Gastrointestinal
 - ◆ From contaminated foods
 - ◆ Abdominal or oropharyngeal forms
 - ◆ Meningitis possible

Anthrax Clinical Course

- Inhalation
 - ◆ Requires thousands of spores
 - ◆ Flu-like symptoms in 1-3 days
 - ◆ Toxemia follows
 - ◆ Fatal if not treated early
 - ◆ Mortality-???

Bartlett, et al. Clinical Anthrax: Primer for Physicians



Therapy for Inhalational Anthrax

- Adults:
 - ◆ Ciprofloxacin 400 mg IV Q-12-H, or
 - ◆ Doxycycline 100 mg IV Q-12-H +
 - ◆ 1 or 2 additional antimicrobials
 - ◆ Duration – switch to oral when clinically appropriate – treat for 60 days.
 - ◆ Ciprofloxacin 500 mg BID
 - ◆ Doxycycline 100 mg BID
- For pregnant women – same as for nonpregnant adults

JAMA 2002; 287: 2236-52

Note – other fluoroquinolones

- The recommendations do not list either levofloxacin, gatifloxacin, or moxifloxacin as options for the treatment of inhalational anthrax – instead they call for either ciprofloxacin or doxycycline to be considered an essential part of first-line therapy

JAMA 2002; 287: 2236-52

Therapy for Inhalational Anthrax

- Children:
 - ◆ Ciprofloxacin 10-15 mg/kg Q-12-H, or
 - ◆ Doxycycline, for those aged
 - ◆ >8 y and > 45 kg – 100 mg Q-12-H
 - ◆ > 8 y and ≤ 45 kg – 2.2 mg/kg Q-12-H
 - ◆ ≤ 8 y – 2.2 mg/kg Q-12-H
 - ◆ Duration – switch to oral when clinically appropriate – treat for 60 days.
 - Cipro – same as IV dose
 - Doxycycline – oral same as IV dosing recommendations

JAMA 2002; 287: 2236-52

Therapy for Cutaneous Dx

Patient Category	
Adult	Ciprofloxacin 500mg po bid or Doxycycline 100mg po bid x 60 days
Child	Ciprofloxacin 10-15mg/kg po bid or Doxycycline 2.2mg/kg po bid x60 days

JAMA 2002; 287: 2236-52

Note – other fluoroquinolones

- In-vitro studies suggest that ofloxacin 400 mg PO Q-12-H, levofloxacin 500 mg PO QD, could be substituted for ciprofloxacin.
- Additional note – amoxicillin can only be used after 10-14 days of a fluoroquinolone and only if there are contraindications for fluoroquinolones and tetracyclines

JAMA 2002; 287: 2236-52

Additional Options for Those Exposed to *Bacillus anthracis* spores

- Earlier Recommendation - 60 days of antibiotics + medical monitoring
- Additional Option 1 - 40 additional days of antibiotic treatment + medical monitoring
- Additional Option 2 - 40 additional days of antibiotic treatment + 3 doses of anthrax vaccine over 4 weeks + medical monitoring

CDC Webcast December 21, 2001

Summary of Inhalation Cases (11/02/01)

- 11 cases of confirmed or suspected Anthrax
- median age 56 years (range 43-73)
- 32ven males
- incubation period when known ~ 4 days
- ◆ time of exposure to onset of symptoms
- most common symptoms:
 - ◆ fever, chills, drenching sweats, profound fatigue, minimally productive cough, n/v, chest discomfort

Emerg Infect Dis 2002; 8: 222-225 (Feb)

Symptoms

Symptom	n=
Fever	9
Sweats / chills	6
Severe fatigue or malaise	8
Non-productive cough	9
Chest discomfort or pleuritic pain	8
Abdominal pain or n/v	5
chest heaviness	5
SOB	7
Headache	5
Myalgias	4
Sore throat	2

MMWR 2001; 50: 941-948

Susceptibility

Antimicrobial	MIC (mcg/mL)	Susceptibility: NCCLS Breakpoints for Staphylococci Used
Ciprofloxacin	≤ 0.06	S
Doxycycline	≤ 0.03	S
Chloramphenicol	4	S
Clindamycin	≤ 0.5	S
Tetracycline	0.06	S
Rifampin	≤ 0.5	S
Vancomycin	1-2	S
Imipenem	< 0.12	S
Erythromycin	1	I
Clarithromycin	0.25	S (borderline)
Penicillin	< 0.06 - 0.12	S
Amoxicillin	< 0.06	S
Ceftriaxone	16	I (using Gram-negative interpretation)

MMWR 2001; 50: 909-919

Tularemia

- *Francisella tularensis*
- One of the most infectious pathogenic bacteria known
- Survives in hay, water, soil, and animal carcasses
- Natural cases in every state except Hawaii

JAMA June 6, 2001;285(21)

Tularemia Clinical Course

- Not transmissible between humans
- Bacteremia in early phase
- Tissue reaction is suppurative necrosis
- Possible hemorrhagic inflammation of airways
- Milder forms resemble Q Fever
- Abrupt onset of fever, headache, malaise
- Slower progression and lower fatality than inhalational plague or anthrax

JAMA June 6, 2001;285(21)

Tularemia Therapy

- Vaccine being studied at USAMRIID
- Streptomycin drug of choice
- Gentamicin acceptable alternative
- FQ's, chloramphenicol, and tetracyclines have activity
- Oral FQ or doxycycline for mass casualty situations

www.medscape.com

Plague

- *Yersinia pestis*
- Bubonic and septicemic not spread between humans
- Pneumonic spread through respiratory droplets
- WHO Report, 1970
 - ◆ 50kg dispersed over a city of 5 million could kill 36,000 people

JAMA May 3, 2000;283(17)

Plague Cases in US, 1947-1996



JAMA May 3, 2000;283(17)

Plague Clinical Course

- Incubation period usually 2-4 days
- Fever, cough, dyspnea, chest pain
- Symptoms similar to inhalation anthrax
 - ◆ Presence of hemoptysis suggests plague
- GI symptoms include N/V/D, abd pain

Plague Therapy

- Streptomycin is the preferred agent
- Gentamicin is acceptable alternative
- Doxycycline, FQs, and chloramphenicol may also be used
- No proven effective vaccine exists
- Doxycycline 1st choice for prophylaxis

Botulism

- *Clostridium botulinum*
- Lethal as a pathogen
- Poor aerosolization
- Potent neurotoxins mediate pathogenesis
- Modes of transportation
 - ◆ Inhalation
 - ◆ Wound
 - ◆ Food

Botulism Clinical Course

- Wound and food borne have incubation 12-36 hours
- Symmetric descending muscle weakness
- Visual changes
- Slurred speech
- Paralysis of diaphragm

Inhalation Botulism

- Does not occur naturally
- Difficulty swallowing
- Dizziness
- Ocular paralysis

Botulism Therapy

- Antitoxin for food or wound disease
- One vial IM, one vial IV
- Possible anaphylactic reactions
- Questionable utility of antibiotic therapy

Smallpox

- Caused by member of the orthopoxviruses
- Variola major vs. variola minor
- Natural infection follows contact with mucosal surfaces
- 7-14 day incubation

Smallpox Clinical Course

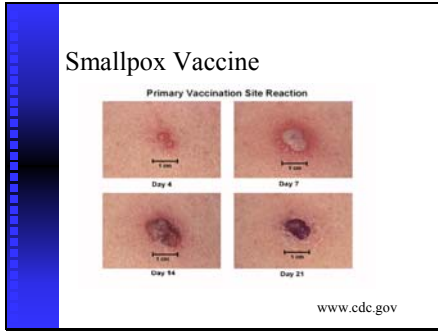
- Asymptomatic viremia day 3-4
- Multiplication of virus in spleen, bone marrow, lymph nodes
- Secondary viremia day 7-8, followed by toxemia
- Localization in small vessels of dermis
- Death most often in 2nd week

Smallpox Presentation

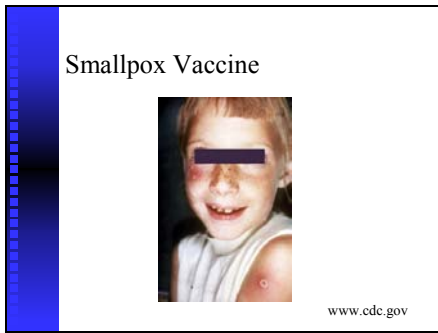
- High fever, malaise, back pain
- Rash on mucosal surfaces and face, forearms
- Rash spreads to trunk and legs
- Smallpox vs. chickenpox
 - ◆ Smallpox lesions all at same stage of development
 - ◆ Chickenpox more concentrated on trunk

Smallpox Treatment

- No antiviral meds with proven efficacy
- Small quantities of vaccine and VIG available
- Vaccine should be given within 4 days of exposure
- Vaccination performed by scarification



- ### Smallpox Vaccination
- Contraindicated with immunosuppression and pregnancy
 - Immune status of those previously vaccinated?
 - Can we dilute what we have?
 - Complications
 - ◆ Encephalitis
 - ◆ Autoinoculation
 - ◆ Viremia



- ### Conclusions
- Further bioterrorism is not just possible, but probable.
 - Anthrax, plague, smallpox are among the most worrisome pathogens.
 - Pharmacists play a key role in obtaining medications and patient counseling in these difficult situations.

The Pharmacist's Role in Bioterrorism: Mobilizing Pharmacists as Immunization Providers

Patricia Rippetoe Freeman, RPh, Ph.D.
VP, Professional Affairs, American Pharmacy Services Corporation
Frankfort, Kentucky

The Pharmacist's Role in Bioterrorism: Mobilizing Pharmacists as Immunization Providers

Trish R. Freeman, RPh, PhD
Vice President Professional Affairs
American Pharmacy Services Corporation

Learning Objectives

- Discuss the role of the pharmacist as an immunization provider in the event of bioterrorism
- Discuss the current status of pharmacists as immunization providers in Kentucky and the Nation
- Outline strategies for mobilizing pharmacists as immunization providers

Introduction

- Coalition of major pharmacy organizations has asked Congress to assure a prominent role for pharmacy in legislation
- As part of their request, coalition provided recommendations regarding the role of pharmacists and pharmacy in preparedness and response

Introduction

- Recommendations include:
 - Ensure that an adequate supply of pharmacy providers are trained in surveillance and monitoring
 - Include pharmacy in the distribution of pharmaceuticals and vaccines
 - Include pharmacy providers on task forces and in community preparedness

Introduction

- Recommendations include:
 - Connect pharmacy to real time on-line communications system
 - Coordinate actions with state boards of pharmacy
 - Ensure continued support for terrorism research at schools and colleges of pharmacy

History of Pharmacists' Involvement in Immunizations

- 1890s - RPhs *distribute* smallpox vaccine
- 1950s - RPhs *distribute* poliovirus vaccine
- 1984 - Pharmacies begin routinely serving as "hosts" to facilitate immunization by other HCPs
- 1994 - 1st training for RPhs to become immunization providers held in Washington state

History of Pharmacists' Involvement in Immunization

- 1996 - APhA begins providing immunization training certificate program
- 1997 - APhA-ASP and SNPhA develop *Operation Immunization* which has immunized over 175,000 people between 1997-2001
- 2002 - Over 4,000 RPhs have been trained as immunization providers

Legislative Authority

- State-specific authority to administer
 - prescription vs. protocol
- In KY "practice of pharmacy" defined as:
 - interpretation, evaluation, and implementation of medical orders and prescription drug orders
 - responsibility for dispensing prescription drug orders, including radioactive substances
 - participation in drug and drug-related device selection
 - *administration of medication in the course of dispensing...*

-KY 315.010:19

Status of Pharmacists as Immunization Providers in Kentucky

- In 1999, APSC developed and began offering adult immunization training programs to its members
- Over 40 APSC pharmacists at 22 pharmacies trained to administer adult immunizations
- 8 APSC pharmacists collectively administered over 2000 flu shots during 2001 flu season

Status of Pharmacists as Immunization Providers in Kentucky

- APSC recently conducted survey of pharmacists trained to provide adult immunizations
 - Goal of survey was to determine the number of pharmacists/pharmacies actively conducting immunizations and to identify barriers to immunization delivery in community pharmacies

Status of Pharmacists as Immunization Providers in Kentucky

- Survey results indicate:
 - 40% of trained pharmacists are actively providing immunizations
 - reasons cited by pharmacists for not implementing vaccine delivery program
 - vaccine shortages; delay in getting vaccine
 - cost of vaccine
 - lack of time
 - reimbursement concerns
 - difficulty in securing prescription authorization

Status of Pharmacists as Immunization Providers in Kentucky

- Since 1999 all pharmacy students receive immunization training at UK COP through collaboration with APhA
- APSC and pharmacy students planning collaborative effort for this year's *Operation Immunization*

Status of Pharmacists as Immunization Providers Nationally

- 35 states now have some type of authority to immunize
 - pharmacists in about 27 of these are actively immunizing patients
 - problems with vaccine distribution delays and shortages may contribute to low participation in some states where pharmacists are trained and have legislative authority

Status of Pharmacists as Immunization Providers Nationally

- National survey recently conducted:
 - goal was to obtain information regarding pharmacists' current involvement in and willingness to provide immunization services
 - cross-sectional mail survey to 5,342 pharmacists from across all community pharmacy practice settings; 1,348 responses received for a 25.3% response rate

Madhavan et al. J Am Pharm Assoc 2001 Jan-Feb; 41(1):32-45

Status of Pharmacists as Immunization Providers Nationally

- National survey recently conducted:
 - results indicate that although significant number were involved in immunization advocacy, only 2.2% were involved in actual administration of adult immunizations

Madhavan et al. J Am Pharm Assoc 2001 Jan-Feb; 41(1):32-45

Strategies for Securing Role of Pharmacists as Immunization Providers

- Increase access to immunization training, including discussion of anthrax and small pox, for pharmacists and pharmacy students
- Educate existing pharmacist immunization providers on small pox and anthrax vaccines to prepare them for vaccine delivery in event of bioterrorism

Strategies for Securing Role of Pharmacists as Immunization Providers

- Increased collaboration with public health officials and health care providers to increase awareness of the role of pharmacists in promoting and ensuring public health

Challenges for Pharmacy Compounding in Response to Terrorists Attacks

Loyd V. Allen, Jr., PhD, Editor-in-Chief
International Journal of Pharmaceutical Compounding
Edmon, Oklahoma

Challenges for Pharmacy Compounding In Response to Terrorist Attacks



Loyd V. Allen Jr., PhD, RPh
Editor-In-Chief
International Journal of Pharmaceutical Compounding
Edmon, Oklahoma

Goal

- ...to provide pharmacist practitioners with information and data to enable them to be an integral component of a community emergency-preparedness plan in the event of terrorism.

Objectives

- Define the types of agents of terrorism, their characteristics, causes, and consequences
- Develop an emergency preparedness plan (including trained compounding personnel) for your facility to follow in the event of terrorism activity in the local service area

Objectives

- Discuss the methods of providing direct treatment for the effects of the agents and for the panic, stress, and anxiety associated with the event(s)
- Develop an inventory of bulk drug substances and formulations that can be compounded into medications to be used in the event of a terrorism attack

Outline

- Introduction
- Terrorism and Bioterrorism
- Drugs
- Dosage forms
- Patient Categories and Dosage Forms
- Example Compounded Prescriptions
- Miscellaneous
- Critical Logistic Needs
- Summary

Introduction

- History of Pharmacy Compounding in the United States
- Reasons for the Growth of Compounding
- Special Patient Populations
- Role of the U.S. Pharmacopeia
- Role of the Compounding Clinical Pharmacist

History of Pharmacy Compounding in the U.S.

- In the past, Compounding Was Pharmacy
- 1900s gave way to commercially prepared pharmaceuticals
- Many strengths/dosage forms available
- Economics changed all that
- Limited strengths/dosage forms
- “One Size Fits All” approach

Reasons for the Growth of Pharmacy Compounding

- Limited dosage forms
- Limited strengths
- Home health care
- Hospice care
- Nonavailable drug products/combinations
 - ◆ Discontinued drugs
 - ◆ Drug shortages
- Orphan drugs
- Veterinary compounding
- New therapeutic approaches
- Special patient populations

Special Patient Populations

- Pediatric
- Geriatric
- Bioidentical Hormone Replacement Therapy
- Pain Management
- Dental
- Environmentally & Cosmetically Sensitive
- Sports Injuries
- Veterinary
 - ◆ Small, Large, Herd, Exotic, Companion
- Terrorist Attack Victims

Role of the U.S. Pharmacopeia

- ...to promote the public health and benefit practitioners and patients by disseminating authoritative standards and information developed by its volunteers...
- ...establishment of standards for:
 - ◆ Quality
 - ◆ Strength
 - ◆ Purity

Role of the Compounding Clinical Pharmacist

- "Individualizing Drug Therapy"

Terrorism and Bioterrorism

- Terrorism
 - ◆ The systematic use of terror, violence, and intimidation to achieve an end
- Bioterrorism
 - ◆ Biological Warfare...the use of living organisms or their toxic products against men, animals, or plants
 - ◆ Bioterrorism...the use, or threatened use, of biological agents to promote or spread fear or intimidation upon an individual, a specific group, or the population as a whole for religious, political, ideological, financial, or personal purposes

Terrorism and Bioterrorism

- | | | |
|--------|----------------|----------------------|
| ■ 1979 | Soviet Union | Anthrax Spores |
| ■ 1984 | Oregon | Salmonella salad bar |
| ■ 1993 | New York City | WTC Bombing |
| ■ 1995 | Tokyo | Sarin Nerve Gas |
| ■ 1995 | Oklahoma City | Bombing |
| ■ 1997 | Washington DC | Anthrax |
| ■ 1998 | US-Israel/Iraq | |
| ■ 2001 | New York City | WTC Attack |
| ■ 2001 | Washington DC | Anthrax in mail |

Causitive Agents

- Weapons
- Chemical Agents
 - ◆ Choking agents, blistering agents (mustard gas, phosgene oxime, Lewisite), nerve agents (sarin gas, soman, tabun, VX, mustard gases), cyanide
- Biological Agents
 - ◆ Bacteria (Anthrax, Tularemia, Q fever, Brucella, Plague)
 - ◆ Viruses (Smallpox, Venezuelan equine encephalomyelitis (VEE), Rift Valley fever, Lassa viruses)
- Toxins
 - ◆ Botulinum toxin, Staphylococcal enterotoxin B, Ricin)

Drugs Needed to Treat

- Anthrax
- Botulism
- Plague
- Smallpox
- Tularemia
- Hemorrhagic Fevers
 - ◆ (Lassa Fever, Crimean-Congo Hemorrhagic Fever, Hantavirus)

Drugs - Example

- Treatment Doses
 - ◆ Ciprofloxacin for Anthrax
 - ◆ 400 mg IV q 12 h
- Prophylaxis Doses
 - ◆ Ciprofloxacin for Anthrax
 - ◆ 500 mg po q 12 h
- Decontamination
 - ◆ Sodium hypochlorite 0.5% solution+

Drugs

- Anthrax
 - ◆ Amoxicillin
 - ◆ Anthrax Vaccine Adsorbed
 - ◆ Chloramphenicol
 - ◆ Ciprofloxacin
 - ◆ Clindamycin
 - ◆ Doxycycline
 - ◆ Erythromycins

Drugs

- Anthrax (Cont'd)
 - ◆ Levofloxacin
 - ◆ Ofloxacin
 - ◆ Penicillin G Potassium
 - ◆ Penicillin G Procaine
 - ◆ Penicillin V Potassium
 - ◆ Rifampin
 - ◆ Tetracyclines
 - ◆ Vancomycin

Drugs

- Botulism
 - ◆ Botulism Equine Trivalent Antitoxin
 - ◆ Botulism Toxoid

Drugs

- Plague
 - ◆ Chloramphenicol
 - ◆ Ciprofloxacin
 - ◆ Doxycycline
 - ◆ Gentamicin
 - ◆ Ofloxacin
 - ◆ Plague Vaccine
 - ◆ Streptomycin
 - ◆ Tetracyclines

Drugs

- Smallpox
 - ◆ Cidofovir
 - ◆ Smallpox Vaccine
 - ◆ Smallpox Immune Globulin

Drugs

- Tularemia
 - ◆ Chloramphenicol
 - ◆ Ciprofloxacin
 - ◆ Doxycycline
 - ◆ Gentamicin
 - ◆ Streptomycin
 - ◆ Tetracyclines

Drugs

- Hemorrhagic Fevers
 - ◆ (Lassa Fever, Crimean-Congo Hemorrhagic Fever, Hantavirus)
 - ◆ Ribavirin

Dosage Forms

- Oral Solids (Capsules, Troches, Tablets)
- Oral Liquids
- Inhalation
- Suppositories/Enemas
- Topicals
- Ophthalmics
- Nasal-Local and Systemic
- Parenterals

Patient Categories and Dosage Forms

- Neonates
 - ◆ Inj/OL/OI/Supp/Enemas
- Infants
 - ◆ OL/OI/Inj/Supp/Enemas
- Pediatrics-Young
 - ◆ OL/OI/Inj/Supp/Enemas/Topicals

*OL = Oral Liquids; OI = Oral Inhalation

Patient Categories and Dosage Forms

- Pediatrics-Older
 - ◆ OS/OL/Inj/OI/Supps/Enemas/Topicals
 - Adults
 - ◆ OS/OL/Inj/OI/Supps/Enemas/Topicals
 - Geriatrics
 - ◆ OS/OL/Inj/OI/Supps/Enemas/Topicals
- *OS = Oral Solids

Example Compounded Prescriptions

- Basic Oral Liquid Suspending Vehicle
- Amoxicillin
- Atropine sulfate
- Chloramphenicol
- Cidofovir
- Ciprofloxacin
- Clindamycin
- Doxycycline
- Erythromycins

Example Compounded Prescriptions

- Gentamicin
- Levofloxacin
- Ofloxacin
- Penicillin G Potassium
- Penicillin G Procaine
- Penicillin V Potassium
- Potassium Iodide
- Ribavirin

Example Compounded Prescriptions

- Rifampin
- Sodium hypochlorite 0.5% solution
- Streptomycin
- Tetracyclines
- Vancomycin

Basic Oral Liquid Suspending Vehicle

- Methocellulose 1% Gel 50 mL
- Flavored Syrup 50 mL

Amoxicillin 250 mg Troches

- Amoxicillin trihydrate 6 g
- Citric acid 600 mg
- Sodium saccharin 65 mg
- Stevia Powder 500 mg
- Silica gel 240 mg
- Acacia powder 400 mg
- Polyethylene glycol 1450 18 g
- Raspberry flavor qs
- For #24

Amoxicillin 125 mg/5 mL Suspension

- Amoxicillin trihydrate 2.5 g
- Orange Kool Aid 1 g
- Dextrose 30 g
- Methocel E4M Premium 800 mg
- Purified water qs 100 mL

Amoxicillin 125/5 SF Suspension

■ Amoxicillin Trihydrate	2.5 g
■ Orange flavor	qs
■ Sorbitol	30 g
■ Methocel E4M Premium	800 mg
■ Purified water	qs 100 mL

Amoxicillin 125 mg Suppository

■ Amoxicillin trihydrate	125 mg
■ Sodium caprate	60 mg
■ Silica gel	15 mg
■ Fatty acid base	11.3 g

Atropine Sulfate 0.1% for Inhalation

■ Atropine sulfate	100 mg
■ Benzalkonium chloride 50%	0.003 mL
■ Sterile water for irrigation	15 mL
■ Sterile sodium chloride for irrigation qs	100 mL

Atropine Sulfate 0.5 mg/mL Injection

■ Atropine sulfate	50 mg
■ Sodium chloride	900 mg
■ Benzyl alcohol	1.5 mL
■ Sterile water for injection qs	100 mL

Atropine 1 mg Gelatin Troches

■ Atropine sulfate	24 mg
■ Gelatin base	28 g
■ Silica gel	240 mg
■ Stevia powder	500 mg
■ Acacia powder	400 mg
■ Citric acid	575 mg
■ Flavor	qs
■ For #24	

Gelatin Base

■ Glycerin	100 mL
■ Gelatin	28 g
■ Purified water	14 mL

Chloramphenicol 250 mg Capsules

- Using #1 Capsules
- Chloramphenicol 25 g
- Lactose 11.4 g

- Using #0 Capsules
- Chloramphenicol 25 g
- Lactose 28.6 g

Chloramphenicol Palmitate 150 mg/5 mL Suspension

- Chloramphenicol palmitate 5.22 g
- Glycerin qs
- Flavored syrup 50 mL
- Methylcellulose 1% Gel qs 100 mL

Cidofovir

- Cidofovir qs
- Sodium caprate 60 mg
- Silica gel 15 mg
- Fatty acid base qs

Ciprofloxacin Oral Suspension

- Ciprofloxacin Tablets qs
- Stevia powder 500 mg
- Xanthan gum 500 mg
- Glycerin qs
- Flavor, Crème DeMenthe qs
- Simple syrup or
- Arom Eriodictyon Syrup qs 100 mL

Clindamycin 150 mg Capsules

- For #1 Capsules
- Clindamycin hydrochloride 16.35 g
- Lactose 23.2 g

- For #0 Capsules
- Clindamycin hydrochloride 16.35 g
- Lactose 38.23 g

Clindamycin Phosphate 150 mg Capsules

- Clindamycin phosphate 18 g
- Lactose 17.5 g

**Clindamycin 10 mg/mL
Oral Suspension**

■ Clindamycin palmitate	1.65 g
■ Stevia powder	500 mg
■ Saccharin sodium	100 mg
■ Acesulfame potassium	500 mg
■ Vanilla extract	1 mL
■ Purified water	40 mL
■ Chocolate syrup qs	100 mL

**Doxycycline Hydrochloride
100 mg Capsules**

■ Doxycycline hydrochloride	10 g
■ Avicel	15.5 g

**Doxycycline Calcium
50 mg/5 mL Oral Suspension**

■ Doxycycline hydrochloride	1.332 g
■ Calcium chloride dihydrate	191 mg
■ Sodium CMC	1 g
■ Sodium hydroxide 10% Soln	qs
■ Simethicone	0.5 mL
■ Glycerin	20 mL
■ Polysorbate 20	0.15 mL
■ Sodium metabisulfite	120 mg
■ Methylparaben	60 mg
■ Propylparaben	30 mg
■ Purified water	50 mL
■ Flavor	qs
■ Sorbitol 70% solution	qs 120 mL

Erythromycin 200 mg Troches

■ Erythromycin	4.8 g
■ Xanthan gum	400 mg
■ Silica gel	240 mg
■ Stevia powder	600 mg
■ Citric acid	600 mg
■ Polyethylene glycol 1450	22.3 g
■ Flavor (Raspberry, Tutti Frutti)	qs
■ For 24 Troches	

**Erythromycin Ethylsuccinate
200 mg Suppository**

■ Erythromycin ethylsuccinate	200 mg
■ Silica gel	20 mg
■ Fatty acid base	1.5 g

**Erythromycin Ethylsuccinate
25 mg/mL Oral Suspension**

■ Erythromycin ethylsuccinate	3.53 g
■ Simethicone	2.5 mL
■ Sodium CMC 1.5% solution	25 mL
■ Xanthan gum	200 mg
■ Sodium chloride	200 mg
■ Sodium saccharin	50 mg
■ Caramel flavor	qs
■ Blueberry flavor	qs
■ Preserved water	10 mL
■ Simple syrup	qs 120 mL

**Erythromycin 250 mg
Suppository**

- Erythromycin 250 mg
- Silica gel 25 mg
- Fatty acid base 1.48 g

**Gentamicin Sulfate
80 mg/mL Injection**

- Gentamicin sulfate (activity equiv) 8 g
- Methylparaben 180 mg
- Sodium bisulfite 320 mg
- Propylparaben 20 mg
- Edetate disodium 10 mg
- Sodium hydroxide 10% soln qs
- Hydrochloric acid 10% soln qs
- Sterile water for injection qs 100 mL

Levofloxacin

- Levofloxacin qs
- Methocellulose 1% Gel 50 mL
- Flavored Syrup qs 100 mL

Ofloxacin

- Ofloxacin qs
- Methocellulose 1% Gel 50 mL
- Flavored Syrup qs 100 mL

**Penicillin G Potassium
20,000,000 units, 100 mL**

- Penicillin G potassium 12.821 g
- Sterile water for injection qs 100 mL

**Penicillin G Potassium
1,000,000 u/10 mL Injection**

- Penicillin g potassium 1,000,000 u
- Citric acid/Sodium citrate buffer 1 mL
- Citric acid 50% solution qs
- Sterile water for injection qs 10 mL
- -----
- Citric acid/Sodium citrate buffer
- Citric acid 23.5 mg; Sodium citrate 615 mg;
Sterile water for injection to 25 mL

**Penicillin G Procaine
300,000 units/mL Injection**

- Penicillin G potassium 2.499 g
- Procaine hydrochloride 2.014 g
- Sodium citrate 130 mg
- Soy lecithin 39 mg
- Sodium CMC, Medium 117 mg
- Povidone 117 mg
- Bacteriostatic water for inj qs 13 mL

**Penicillin V Potassium
250 mg Capsules**

- Penicillin V potassium 25 g
- Lactose or Avicel qs

Potassium Iodide 300 mg Capsules

■ #1 Capsules

- Potassium iodide 30 g
- Avicel PH-105 14.55 g

■ #0 Capsules

- Potassium iodide 30 g
- Avicel PH-105 23.55 g

Potassium Iodide 300 mg/5 mL Oral Syrup

- Potassium iodide 6 g
- Raspberry flavor qs
- Preserved water 45 ml
- Syrup qs 100 mL

Potassium Iodide Saturated Solution

- Potassium iodide 100 g
- Sodium thiosulfate 50 mg
- Purified water qs 100 mL

Ribavirin 200 mg Capsules

- Ribavirin 20 g
- Avicel PH-105 5.24 g

- Size #1 capsules

Ribavirin 33 mg/mL Injection

- Ribavirin 3.3 g
- Sodium chloride 460 mg
- Sterile water for injection qs 100 mL

Rifampin 10 mg/mL Oral Suspension

- Rifampin 1 g
- Glycerin qs
- Ascorbic acid 100 mg
- Xanthan gum 200 mg
- Strawberry flavor qs
- Simple syrup qs 100 mL

**Rifampin
3 mg/mL IV Infusion**

- Rifampin 300 mg
- Propylene glycol 10 mL
- Benzyl alcohol 2 mL
- Poloxamer 188 1 g
- Sterile water for injection qs 100 mL

Rifampin 150 mg Capsules

- Rifampin 15 g
- Lactose 16 g

- Size #1 Capsules

**Sodium Hypochlorite 0.5%
Disinfectant Solution**

- Bleach (5.25%, unscented) 9.5 mL
- Purified water qs 100 mL

**Sodium Hypochlorite
Topical Solution**

- Sodium hypochlorite solution 5 mL
- Monobasic sodium phosphate, monohydrate 1.02 g
- Dibasic sodium phosphate anhydrous 17.61 g
- Purified water qs 1000 mL

**Streptomycin Sulfate
400 mg/mL Injection**

- Streptomycin sulfate equiv to 40 g
- Sodium citrate, anhydrous 1 g
- Phenol 250 mg
- Sodium metabisulfite 200 mg
- 1 N HCl or 1 N NaOH Soln qs
- Sterile water for injection qs 100 mL

**Tetracycline 125 mg/5 mL
Syrup**

- Tetracycline hydrochloride 2.5 g
- Polysorbate 60 1.5 g
- Citric acid 100 mg
- Sodium citrate 100 mg
- Flavor qs
- Simple syrup qs 100 mL

**Tetracycline 125 mg/5 mL
Oral Suspension**

- Tetracycline 2.5 g
- Glycerin qs
- Raspberry flavor qs
- Syrup 50 mL
- Saccharin sodium 100 mg
- Methylcellulose 1% gel qs 100 mL

**Tetracycline Hydrochloride
20 mg/mL IV Injection**

- Tetracycline hydrochloride 2 g
- Ascorbic acid 5 g
- Sterile water for injection qs 100 mL

Tetracycline Capsules

- 250 mg
- Tetracycline hydrochloride 25 g
- Lactose 30 g
- -----
- 500 mg
- Tetracycline hydrochloride 50 g
- Lactose 5 g
- Size #0 Capsules

**Tetracycline 250 mg
Suppository**

- Tetracycline hydrochloride 250 mg
- Silica gel 25 mg
- Fatty acid base qs

**Vancomycin Hydrochloride
250 mg Capsules**

- Vancomycin hydrochloride 25 g
- Avicel PH-105 7.5 g
- Size #1 Capsules

**Vancomycin Hydrochloride
20 mg/mL Oral Solution**

- Vancomycin hydrochloride 2 g
- Glycerin 40 mL
- Flavor qs
- Purified water qs 100 mL

Vancomycin Hydrochloride 50 mg/mL Oral Solution

- Vancomycin hydrochloride 5 g
- Stevia powder 200 mg
- Saccharin sodium 50 mg
- Glycerin 40 mL
- Raspberry flavor qs
- Purified water qs 100 mL

Miscellaneous Considerations

- Regulatory observations
- Quality control
- Stability Considerations
- Proposed levels of compounding

Regulatory Observations

- Pharmacy compounding is now legally recognized by the FDA, the Supreme Court, Congress, etc., as a necessary component of quality health care
- Emphasis on quality of compounding is increasing with documentation of quality being recommended and required
- Clinical pharmacy becomes more of a reality with compounding pharmacy
- USP is playing a major role in supporting pharmacy compounding
- CPG Statements
- Statements on compounding with nicotine

Quality Control

- Physical Assessment (Observations, Weight, Volume)
- pH
- Specific Gravity
- Analysis
- Sterility/Pyrogenicity

Stability Considerations

- Chemical
- Physical
- Microbiological
- Therapeutic
- Toxicological

Proposed Levels of Compounding

- I Nonsterile (Topical)
 - ◊ Mixing of one or two creams or a cream with water, alcohol, etc., according to mfg instructions
- II Nonsterile (Topical)
 - ◊ Preparation of nonsterile topical ointment or cream with no dosage limitations
- III Nonsterile (reconstituting/flavoring)
 - ◊ Reconstitution according to mfg labeling instruction and/or addition of flavoring

Levels of Compounding

IV Sterile (Simple injections. Reconstituted for immediate administration)

V Nonsterile Dosage Forms

- ◆ Preparation of solid oral dosage forms (tablets, capsules, etc.)
- ◆ Preparation of liquid oral dosage forms (solutions, suspensions, emulsions, etc.)

Levels of Compounding

VI Sterile (Ophthalmic/Otics)

- ◆ Preparation of ophthalmic and otic solutions and suspensions

VII Sterile (Complex Injections)

- ◆ Preparation of injections for many patients
- ◆ Preparation of injections not for immediate administration
- ◆ Preparation of TPNs
- ◆ Preparation of multi-component injections

Levels of Compounding

VIII Other Sterile Injections and Transdermal Systems

- ◆ Preparation of chemotherapeutic injections or implants
- ◆ Preparation of transdermal systems

IX Sterile (Radiopharmaceuticals)

- ◆ Preparation of radiopharmaceuticals

Critical/Logistic Needs

- Determine your needs!
- Get pharmacy included in planning
- Water purification system
- Close communication with authorities
- Distribution system
- Relaxation of certain types of state laws during the emergency
- Stock of BDS, supplies, etc.
- Security at the pharmacy

Summary

- Large quantities of BDS can be stocked
 - ◆ Stable
 - ◆ Small storage space
- Easily formulated into various dosage forms
- Pharmacist easily available
- Drugs rapidly formulated
- USP to consider official monographs for these preparations

AACP Business Meeting Report

Dr. Kenneth B. Roberts
Dean, University of Kentucky

The representatives of the member institutions discussed a number of topics including current issues and concerns. They included:

1. Workplace shortage: It was concluded that the workplace shortage for pharmacists was still pronounced.
2. Applications to colleges and schools of pharmacy for the entering class of 2002 increased to record levels at most institutions.
3. Admissions: Every institution represented had increased admissions at least 10 percent and one institution increased the class size more than 100 percent.
4. State budget cuts: Public institutions reported budget cuts for higher education in their states. This was countered by increasing workloads and tuition in most programs. Increases ranged from 0 to greater than 100 percent.
5. Faculty Shortages: Every institution reported that the workplace shortage, budget constraints and increased opportunities for graduates were creating more challenging circumstances for faculty recruitment and retention.
6. The representative discussed a number of current issues that affect pharmacy education including:
 - a. Student Impairment Policies
 - b. New Colleges and Schools in and near the District
 - c. Roles of Colleges in counter terrorism such as:
 - i. Facilitating faculty and student volunteers to serve in distribution of pharmaceuticals, immunization of large groups and formal agreements such as memorandums of understanding with local health departments

Respectfully Submitted,

Kenneth B. Roberts

NABP Business Meeting Report

Gail A. Smith (Reporting)
Florida Board of Pharmacy

Alabama --- Looking at Legislation regarding PBM's (Pharmacy Benefit Managers)
Not only regarding regulation from a Boards standpoint but how they
Interact with the public as well.

Florida --- Licensure by endorsement was Legislative, but we look at this, as a board, as a 1st step because we've been working on it for a long time now.

Florida as a board are disappointed that we are not allowed voting privileges with NABP and we ask that you all look at what an associate member does vs. what an active member does and we'd like the District III's support in our efforts.

2006 session – hopefully legislation will drop that 12-year requirement of having taken the NAPLEX exam.

Georgia --- Legislation has been passed on regulating PBMs.

They are now in the process of promulgating rules and regulations as a board.

Tech regulation amendment

Ask that everyone take a look at the language used regarding the sell of Patients data b/c PBM's are trying to find a way to get around this!

Kentucky --- Bill of significance on their plate: Public Health Bill which requires a pharmacist to be on the Public Health Board.

Working on a proposal to facilitate the dispensing of pharmaceuticals to patients authorizing MD's to have blanks to circle or check a box allowing for a therapeutic alternative whereby a Rph could make an adjustment and notify the MD within a 24 hour period to facilitate delivery of patients meds if needed.

N. Carolina --- Full implementation of clinical pharmacist bill which allows pharmacist to do a whole lot more in health care.

They are now in the process of registering pharmacy techs.

Also in the process of revising their rules -- 20 so far.

In the process of buying a new building.

Tennessee --- Funding issues – State government shut down for 5 days.

Now increased their professional privilege tax from \$200 to \$400/year, so to be an active pharmacist in the State of Tennessee is \$500/year.
(Kendall pointed out there is a silver lining whereby state employees are exempt from this tax, so he doesn't have to pay that \$400/year).

Their major legislative issue is: They're the 19th state to enact control substance monitoring – which is a Public Health initiative Bill.

Also moving from a paper and pencil testing to MPJE

Also looking into registering techs.

2003 – PBM's on the plate

Veterinary issues – whereby veterinarians want the pharmacy board to regulate wholesalers shipping meds to farms...but the Tennessee Board wants the vets to regulate their own industry.

Curriculum Content for Bioterrorism

Panel Discussion

Moderator: William C. Lubawy, Ph.D.
UK College of Pharmacy Lexington, KY

The Role of the UT Health Science Center Responding to

Chemical and Biological Terrorism

Dr. James C. Eoff, Exec Assoc Dean
The University of Tennessee College of Pharmacy

The Role Of The UT Health Science Center Responding To Chemical And Biological Terrorism

Dist 3 NABP-AACP
August 6, 2002
Dr. Jim Eoff

Many UT Roles

- Direct patient care
- Community emergency networks
- Education
- Volunteer resource

Why Volunteer?

- 7 colleges
- 2000 students
- 740 faculty
- Highly educated
- Highly motivated

Campus Planning

- Support of chancellor and deans
- Coordinating committee
 - Representative of each college
 - Student representative
 - Others
- Planning and recruiting
 - Distribution centers
 - National Pharmaceutical Stockpile

NPS: Two Tiered Response

- 12 hr. Push package
 - 8 strategic locations
 - Sustain locality until VMI
- Vendor managed inventory (VMI)
 - Available in 12-48 hours
 - Specific supplies needed
 - 1000 ventilators

12 hr. Push Package

- 5-7 TARU people
- Drugs, antidotes, med/surg supplies, airway management
- 75% - symptomatic casualties
- Controlled substances - security
- If known chemical/nerve agent, no biological drugs/supplies

12 hr. Push Package

- **10,500 cubic feet of material**
- **50 tons – fills 747**
- **130 air cargo containers**
- **Seven 48 foot trailers to transport**
- **\$3 million in value**

2/3 of a Push Package



Facility Requirements

- **Commercial airport**
- **Hangar access**
 - 5000 minimum/15,000 optimum
- **Food, toilet, bunks**
- **Security**

Functions Required

- **Unload plane & place in hangar**
- **Set up tables, machines, electrical, etc.**
- **Transport urgent material**
- **Repackage antibiotics**
- **Send to distribution centers**
- **Ongoing process with VMI**

NPS Committee

- **City/county officials**
- **College of Pharmacy faculty**
 - Drs. Chyka, Gourley, Fitzgerald and Foster
- **Dr. Lynda Park**

Repackaging

- **200,000 prepacked 10 day units**
- **5,400,000 bulk doses**
- **2 industrial machines(2400/hr)**
- **8 table counting units(1000/hr)**
- **100 volumetric scoops(150/hr)**

Repackaging Functions to Perform

- **Receive and process orders**
- **Drugs/supplies to workstations**
- **Operate volumetric scoop, table counting and industrial lines**
- **Packaged units to distribution center and then loading dock**
- **Inventory**

Personnel Requirements for Two Shifts

- **Student volunteers – 500**
- **Faculty supervisors – 20**
- **“Enroll” twice the number needed**
- **Target all students except:**
 - 3rd/4th year medical students
 - 4th year pharmacy/dental students
- **Backup plans**

Recruitment of Volunteers

- **Presentations to students**
- **Discuss liability issues**
- **Collect “applications”**
- **Education**
- **Training exercises**
- **Recruit new volunteers yearly**

Remaining Tasks

- **Populate and maintain data base**
- **Call down list and process**
- **Transportation to/from airport**
- **Determination of initial unit doses**

EDITORIAL COMMENT:

The following information is a brief synopsis of what Dr. Alverson talked on during the panel discussion on the Curriculum Content for Bioterrorism. Should you need anymore information, please contact her at Samford University, McWhorter School of Pharmacy, Birmingham, AL.

The efforts at Samford University to bring pharmacists and students up-to-date on issues related to bioterrorism.

Susan P. Alverson, M.S., M.P.A., D.P.A., Assistant Dean
Samford University

The School of Pharmacy has partnered with the University of Alabama at Birmingham Department of Emergency Medicine to develop a Center for Disaster Preparedness. As the first step for pharmacy, the school has conducted a survey of all pharmacies in the state to determine an average daily state-wide supply of antibiotics, antidotes and medications which might be useful in the event of the release of a weapon of mass destruction. The survey also collected information on the willingness of pharmacists to be involved in a response effort, and those areas of concern which should be part of a state response plan. The School is also involved in a grant-funded program to train, through senario simulations, a variety of health workers, including pharmacists, for event planning and preparedness.

Initiatives in Bioterrorism Preparedness

Dennis Williams, Pharm.D.
University of North Carolina at Chapel Hill

Initiatives in Bioterrorism Preparedness

University of North Carolina at Chapel Hill
Dennis Williams, Pharm.D.

MMWR 2000 (April 21)

“.....primary health-care providers throughout the United States must be vigilant because they will probably be the first to observe and report unusual illness or injuries”

North Carolina

- Fall 2001 : Community Symposium
- Fall 2001: 1 hr in ID Pharmacotherapy
- Three-hour block in statewide CE Program

Overview

- Historical Perspective
- Threats and challenges to health of public
- Bioterrorism agents and management
- Responsibilities and considerations for pharmacists

Weapons of Mass Destruction

- Chemical
- Radiation/Nuclear
- Biological

Historical incidents of biologic terrorism

- Assyrians catapulted decaying animal carcasses over walls of cities
- Roman Empire soldiers tossed animal carcasses into water supplies
- In the 14th century, attacking Tatar forces, weakened by plague, catapulted human cadavers into Kaffa (Ukraine) and won city

Index case: inhalational anthrax
 Bioterrorism incident: U.S.
 Bush L.M, et al. NEJM 2001,(Nov29)

- 63 year old male patient taken by wife to Florida E.D. after awakening with fever, emesis, and confusion
- Four day history of fever, myalgias and malaise but not respiratory symptoms
- Treated with cefotaxime and vancomycin for presumed bacterial meningitis while awaiting lumbar puncture



TABLE 1. Interim recommendations for postexposure prophylaxis for prevention of inhalational anthrax after intentional exposure to *Bacillus anthracis*

Category	Initial therapy	Duration
Adults (including pregnant women and immunocompromised persons)	Ciprofloxacin 500 mg po BID	60 days
	or Doxycycline 100 mg po BID	
Children	Ciprofloxacin 10–15 mg/kg po Q12 hrs*	60 days
	or Doxycycline:	
	>8 yrs and >45 kg: 100 mg po BID >8 yrs and ≤45 kg: 2.2 mg/kg po BID ≤8 yrs: 2.2 mg/kg po BID	

*Ciprofloxacin dose should not exceed 1 gram per day in children.

***When PCN susceptibility established, Amoxicillin 80mg/kg/D for children is preferred**

Pharmacists' Roles and Responsibilities

- Distribution of pharmaceuticals (experts in drug management control)
- Counseling
- Monitoring
- Reporting
- Detecting

Pharmacists' Roles and Responsibilities

- Drug availability (guard against hoarding)
- Drug Safety (Toxicities, Side Effects)
- Appropriate use (according to recommendations)
- Monitoring (safety, efficacy, adherence)
- Identify and Refer associated problems (medical and psychological)

Pharmacists' Roles and Responsibilities

- Accurate information resource
 - Recognition
 - Testing
 - Recommendations
- Referral to appropriate medical care
- Reassurance

National Pharmaceutical Stockpile

- In 1998, Congress directed CDC to develop a national stockpile of medications and vaccines as part of nation's medical readiness response plan
- Approximately \$50 million appropriated annually
- Purchases made by the Department of Veterans Affairs which manages supply

Role for Pharmacy Systems

- Rapid dissemination of information
- Drug procurement, management and control
- Drug Product Problem Reporting
- Sentinel Events
- Role in public health (training, first responders, front line)

Potential Content for Students in Disaster Preparedness/Bioterrorism

- Infectious disease knowledge
- Pharmacotherapy strategies
- Knowledge of local/state/federal infrastructure
- Community resource

‘Ensuring the health of the public has never been more relevant than it is now, as the U.S. population deals with real and potential or perceived acts of terrorism....’

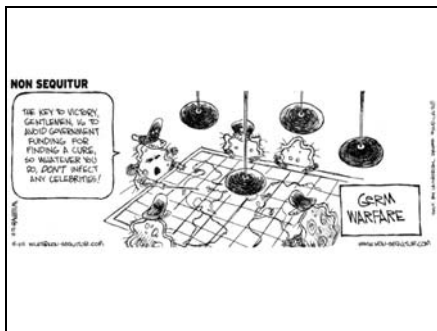
American Public Health Association, 2001

Content Considerations

- Public Health Role for Pharmacists
- Infectious Diseases and Pharmacotherapy Strategies
- Available resources (e.g., CDC, IDSA Pathways, others)
- Integrated into Pharmacotherapy course and Pharmacy Systems course

Other Considerations

- Profession’s Role Models
- Student-initiated vs. mandated involvement
- Ethical considerations

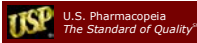


USP's National Voluntary Medication Error Reporting Programs

Elizabeth P. Crowley, Pharm. D.
Director, Information Development
US Pharmacopeia
Rockville, Maryland

USP's National Voluntary Medication Error Reporting Programs

Elizabeth Crowley, Pharm. D.
Director, Information Development
Health Care Information



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Patient Error

- ◆ A 28-year-old female was given a prescription for EMLA® cream with three refills.
- ◆ The patient obtained all refills and applied all the medication to the skin before the first procedure.
- ◆ The patient experienced a drug overdose that required intubation.
- ◆ The reporter is concerned because the label does not state the maximum dosage.

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Objectives

- ◆ USP's Involvement in Medication Errors
- ◆ Overview of USP's National Voluntary Reporting Programs
- ◆ Importance of Reporting
- ◆ Data Characteristics
- ◆ National Impact

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U.S. Pharmacopeia

- ◆ Private non-profit organization
- ◆ Standards-setting for drug products since 1820; Cited in federal regulations
- ◆ Reporting programs for practitioners since 1971


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Practitioner & Product Experience Division



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USP Medication Errors Reporting Program



- ◆ Spontaneous
- ◆ Practitioner-based
- ◆ Confidential
- ◆ National repository

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MEDICATION ERRORS REPORTING PROGRAM
Presented in cooperation with the Institute for Safe Medication Practices
The USP Medication Reporting Network™ is an FDA-recognized forum

ACTUAL ERROR POTENTIAL ERROR

Please describe the error (include sequence of events, personnel involved, and work circumstances (e.g., work location, change of shift, shift ending, on-duty pharmacy, time spent at work space to complete patient safety report) required page.

Was the medication administered to or used by the patient? No Yes Was any harm or injury?

What type of health care provider made the error? _____

Describe location (e.g., health care facility, alternate location) _____

If the medication did not reach the patient, describe the circumstance _____

Was medication in error? _____

When did the error occur (e.g., hospital, outpatient or retail pharmacy, long-term patient care)? _____

Was another medication involved in the error? No Yes. What type of medication? _____

Was patient consulting provider? No Yes. If yes, before or after error was discovered? _____

If product was involved, please complete the following:

Product #1	Product #2
Generic name	Generic name
Manufacturer	Manufacturer
Strength of product	Strength of product

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Drug Name _____
Strength/Concentration _____
Date and time of incident _____
NDC Number _____

If available, please provide relevant patient information (age, gender, diagnosis, etc.). Patient identification not required.

Reports are most useful when relevant materials such as product label, copy of prescription(s), etc. can be reviewed.
Can these materials be provided? No Yes. If yes, please specify _____

Suggest any recommendations you have to prevent recurrence of this error or describe policies or procedures you have instituted to prevent future errors.

A copy of this report is routinely sent to the Institute for Safe Medication Practices (ISMP), to the manufacturer/retailer, and to the Food and Drug Administration (FDA). USP may release the identity of health care staff who report errors.

Other person reporting a copy of this report: _____
Your name and title: _____
Your facility name, address, and ZIP: _____

Signature: _____ Date: _____

Phone No. (Country Code) _____ Fax No. (Country Code) _____
E-mail _____
USP Home Page: www.usp.org
USP Home Page: www.usp.org
USP Home Page: www.usp.org
USP Home Page: www.usp.org

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Importance of Reporting

- ◆ Identification of public health and safety concerns
- ◆ Able to track, monitor, and analyze errors
- ◆ Sharing of experiences
- ◆ Institution of regulatory and industry changes

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Potential Error

- ◆ Intravenous Sporanox® is supplied in a kit, however, the directions are very confusing.
- ◆ The dilution process involves adding the entire 25-mL itraconazole ampul to a 50 mL bag of normal saline.
- ◆ To achieve the usual dose the infusion must be stopped.

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Importance of Reporting

- ◆ Institute for Safe Medication Practices
- ◆ Food & Drug Administration
- ◆ Product Manufacturers

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Pharmacy Technician Dispensed Floor Stock

- ◆ "Cerebyx® 150 mg IV" was ordered for a 2-year-old with seizures admitted to an Emergency Department.
- ◆ Emergency is treated as a "floor stock" only department.
- ◆ All three vials (1500 mg) were administered to the patient.
- ◆ The pharmacist on duty was unaware of the transaction.

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USP & Medication Errors

Seeks to make revisions of current drug standards or implement new requirements for drug products, packaging, and/or labeling to prevent future errors from occurring.

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NCC MERP

National Coordinating Council for Medication Error Reporting & Prevention



- Working coalition of 20 organizations and federal agencies
- Mission to promote the reporting, understanding, and prevention of medication errors.

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Medication Error Definition

"A Medication Error is any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient or consumer. Such events may be related to professional practice, health care products, procedures and systems, including prescribing; order communications;

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Medication Error Definition

*"A Medication Error is any **preventable** event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient or consumer. Such events may be related to professional practice, health care products, procedures and systems, including prescribing; order communications;*

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Medication Error Definition

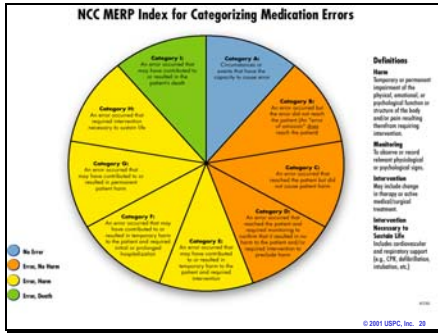
*"A Medication Error is any preventable event that may cause or **lead to** inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient or consumer. Such events may be related to professional practice, health care products, procedures and systems, including prescribing; order communications;*

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Medication Error Definition

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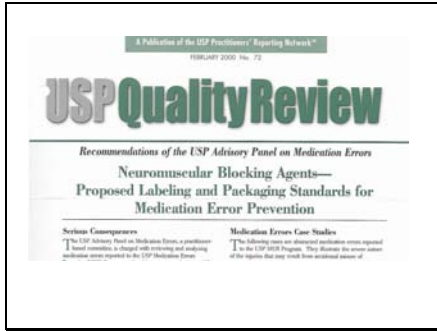
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National Impact

- National Coordinating Council for Medication Error Reporting and Prevention (1995)
- USP *ad hoc* Advisory Panel on Medication Errors (1996)
- USP Safe Medication Use Expert Committee (2000) as a formal part of the standards-setting process

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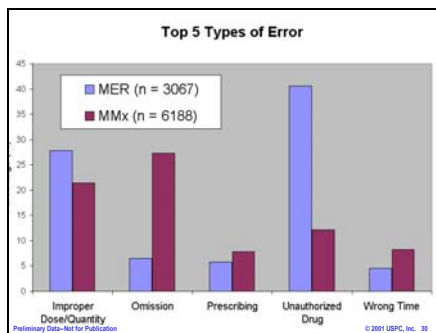
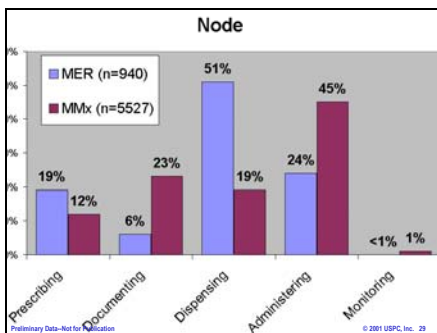
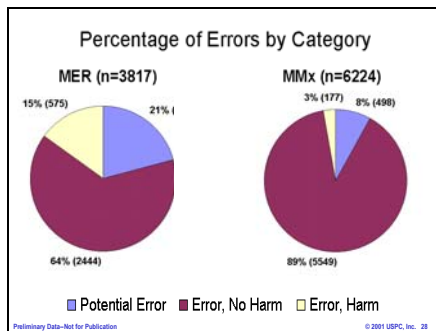
- ### The Need for a National System
- ◆ Hospitals looking for a nationally standardized format to collect data.
 - ◆ Does USP have definitions to help me start tracking in my facility?
 - ◆ What is an acceptable error rate?
 - ◆ How can I compare to other institutions like myself?
 - ◆ Can our hospital share information with USP in an anonymous way?
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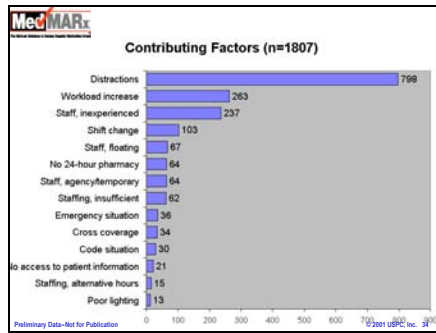
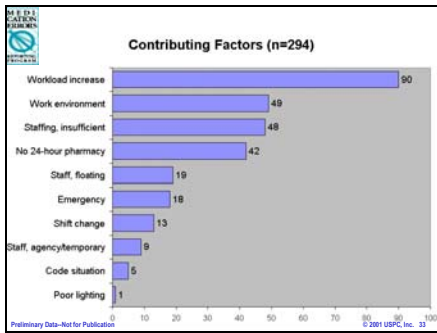
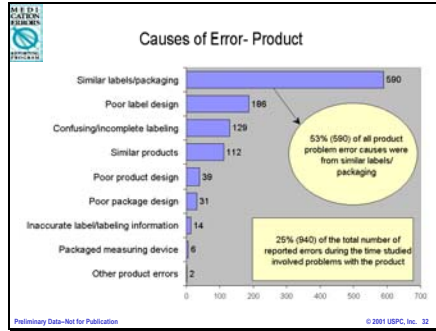
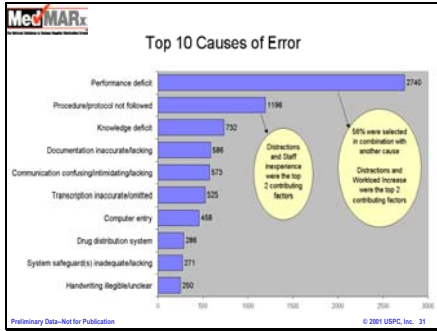
- ### MedMARxSM
-
- ◆ Internet-accessible
 - ◆ Internal PI tool
 - ◆ Anonymous
 - ◆ Facility-based
 - ◆ Standardized
- © 2002 USP, Inc. 26

Data Characteristics

MER 1/1/95-12/31/99 n=3817	MedMARx 1/1/99-12/31/99 N=6224
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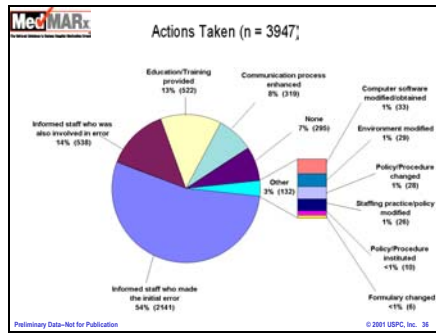
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Severity	MER (n = 6397)	MedMARx (n = 5234)
Potential Error & Error, No Harm	<ul style="list-style-type: none"> Heparin (124) Insulin (102) Morphine (85) Sodium chloride (61) Warfarin (54) 	<ul style="list-style-type: none"> Warfarin (153) Insulin (132) Heparin (127) Cefazolin (95) Vancomycin (94)
Error, Harm	<ul style="list-style-type: none"> Morphine (35) Heparin (28) Potassium chloride (23) Fentanyl (18) Insulin (16) Esmolol (16) 	<ul style="list-style-type: none"> Insulin (12) Morphine (11) Heparin (7) Furosemide (5) Propofol (4) Fentanyl (4)

Preliminary Data-Not for Publication © 2001 USPC, Inc. 35



MedMARx Actions Taken

- ◆ Dual-lumen catheter line placed and standard orders called for twice daily flushes
- ◆ One lumen of the patient's line was not being routinely used
- ◆ Subsequently, the lumen clotted off twice.

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MedMARx Actions Taken(cont.)

- ◆ Computer software modified/obtained
- ◆ Policy/Procedure changed
- ◆ Education/Training provided

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Impact on USP Standards

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Amrinone/Amiodarone

- ◆ Provided USP Nomenclature Committee and USAN with USP MER Program reports citing confusion between Amrinone and Amiodarone
- ◆ Practitioner questionnaire to obtain comment regarding proposal to rescind and replace nonproprietary names

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Amrinone/Amiodarone(cont.)

- ◆ Practitioner comment persuasive
- ◆ USP and USAN change *AMRINONE* to *INAMRINONE* and postpone name change to Amiodarone
- ◆ Change official July 1, 2000

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Liposomal Formulations

- ◆ Provided USP MER Program reports to the USP Nomenclature Committee citing errors resulting from confusion between conventional and liposomal formulations
- ◆ An *ad hoc* subcommittee formed to address standardization of liposome product nomenclature

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Gentamicin Revision

- ◆ Published warning about reported endotoxin reactions to gentamicin products in *USP Quality Review*
- ◆ Furnished the reported information to the drug standards division
- ◆ Reports served as support in development of revision to endotoxin specifications for gentamicin that became official January 1, 2000

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Safe Medication Use Expert Committee Meeting April 2002

- ◆ Same Proprietary Name for Different Product Formulations (Response to NABP Resolution)
- ◆ Neuromuscular Blocking Agent Standards (*PF* Mar/Apr 2002)
- ◆ Expression of Product Concentration
- ◆ Plastic Ampul Packaging and Labeling
- ◆ Proprietary Name Suffixes for Extended Release Products (e.g., CD, ER, LA, XR)
- ◆ Imprint Codes

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How to Report to MER Program



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Medication Use Process As a System

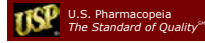
"...every system is perfectly designed to achieve exactly the results it gets..."

Donald Berwick, MD, CEO, Institute for Healthcare Improvement
Quote from keynote address at NPSF Conference Annenberg

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For more information:

epc@usp.org
www.usp.org
www.nccmerp.org



NABP-AACP JOINT BUSINESS SESSION
Committees' Reports

TIME & PLACE

The 2003 District III NABP/ACCP meeting will be held August 3-5 at the Westin Savannah Harbour in Savannah, Georgia. Hosted and co-sponsored by the Mercer University Southern School of Pharmacy and the Georgia Board of Pharmacy.

Respectfully submitted,

Ted Matthews, Dean, Mercer University , Southern School of Pharmacy
Jeff Lurey, President, Georgia Board of Pharmacy

NOMINATIONS COMMITTEE

NABP/AACP Chairpersons to the 2003 meeting in Savannah, Georgia.

Ted Matthews
Dean, Mercer University , Southern School of Pharmacy

Jeff Lurey
Georgia Board of Pharmacy

Secretary-Treasurer
Sam T. Coker, Auburn University

Nominating Committee - NABP

Delegate – Patricia Thornberry, Kentucky Board
Alternate - Betty Dennis, North Carolina Board

Resolutions Committee – NABP

Delegate – Joe Carr, Kentucky Board
Alternate - Reggie Dillard, Tennessee Board

Respectfully submitted,

D. Frank Landrum, Chair, Georgia Board of Pharmacy
Betty Dennis, North Carolina Board
Joe Carr, Kentucky Board

AUDIT

Recommended approval of the audit report prepared by Dr. Sam Coker. The audit report was approved at the business meeting. Continuation of the honorarium and convention expenses for the Secretary-Treasurer was recommended.

Submitted by,

Bobby Parrado, Chair, Florida Board of Pharmacy

Tim Armstrong, Kentucky Board of Pharmacy

George Francisco, University of Georgia College of Pharmacy

JOINT RESOLUTIONS

- I.
- WHEREAS: southern hospitality is unparalleled and
- WHEREAS: a program as comprehensive and informative as the 2002 AACP/NABP District III meeting could not be accomplished without the generous contributions of our friends,
- THEREFORE: be it resolved that the NABP/AACP District III member boards and colleges thanks its sponsors for their support.

Abbott Laboratory
A.P.S.C.
Bergen Brunswig
Cardinal Health
CVS/Pharmacy
Eli Lilly & Co.
Kroger
Medco Health Solutions
Meijer
NACDS
Rite Aid
Target Corp.
Wal-Mart
Walgreens

- II.
- WHEREAS: the AACP/NABP District III meeting is the first district meeting of the 'season', and
- WHEREAS: the AACP/NABP districts that follow the District III meeting have to follow the best,
- THEREFORE: be it resolved that members and guests extend to the University of Kentucky and the Kentucky Board of Pharmacy their sincere appreciation for their outstanding efforts and extraordinary programming at this 2002 AACP/NABP District III meeting.

III.

WHEREAS: the apparent risks for biological and chemical terrorism attacks in the U.S. exists, and

WHEREAS: the profession of pharmacy should play a significant role in the community response to terrorist events, as well as natural disasters.

THEREFORE: be it resolved that Colleges of Pharmacy be encouraged to:

1. Develop education programs for pharmacists, students and practitioners on the appropriate pharmacist response to terrorist and natural disasters.
2. Develop plans, in conjunction with, communities to utilize college facilities and volunteer students/faculty in the response to disasters to areas such as sorting and packaging of medications, administering immunizations, and providing emergency pharmaceutical care.

Respectfully submitted,

Kendall Lynch, Chair, Tennessee Board of Pharmacy
Gail A. Smith, Florida Board of Pharmacy

Report of the Secretary-Treasurer
District III NABP/AACP

Samuel T. Coker
School of Pharmacy
Auburn University

This report covers the period of August 1, 2001 - July 18, 2002. Dues have been received this year from all Boards and Schools/Colleges. There are 16 schools/colleges. Palm Beach Atlantic College is now a member of District III.

The 2001 District III Business meeting voted to reimburse the University of North Carolina School of Pharmacy for the \$1,681.39 deficit incurred while sponsoring their excellent program in 2000.

Dean Henry Lewis III and his Florida A&M program committee reported a surplus of \$2,095.49 while providing an entertaining and educational program in 2001 at Amelia Island Resort.

The limited number of 60 hard copies of the proceedings mailed to the offices of the Deans & Board Executive Directors is significantly reducing costs. The proceedings are on the Auburn web page at <http://pharmacy.auburn.edu/admin/district3.html>.

Your continued cooperation and support is greatly appreciated. Comments & suggestions are always welcome.

**REPORT OF THE TREASURER
DISTRICT III NABP/AACP**

**Financial Report
August 6, 2002**

Checking and Savings Account

July 19, 2001 Checking Account Balance	\$2,598.16	
Interest on Checking		27.00
CD # 49632 Maturity Date 9/21/03		
Auburn National Bank	13,426.76	
Interest 9/21/01-6/21/02		467.27
CD # 48377 - Maturity Date 12/01/02	6,000.00	
Interest 1/01/02		<u>315.70</u>
Balance in Checking/Savings		\$22,834.89

2001-2002 Receipts

Twenty Five 2002 Boards and Colleges Dues at \$100	\$2,500.00	
Transfer of funds from CD to checking	\$4,000.00	
Deposit of income over expenses from 2001 meeting	\$2,095.49	
Total Receipts		<u>\$ 8,595.49</u>

Grand Total Receipts and Assets \$31,430.38

2001-2002 Disbursements

Expenses for the Secretary-Treasurer as approved by the 2001 convention.

Mileage to & from Amelia Island Resort (916 miles @ \$.325/mile)	\$ 297.70	
Meals enroute and not covered by registration	\$ 68.50	
Honorarium as approved by the 2001 audit report	<u>\$ 3,000.00</u>	
	\$ 3,366.20	
Secretarial expenses -- typing proceedings, correspondence, and other office expenses	\$ 550.00	
Reimburse the University of North Carolina School of Pharmacy for deficit in 2000 meeting	\$ 1,681.39	
Printing and binding of 60 copies of the 2000 Proceedings	<u>\$ 256.07</u>	
Total Disbursements		\$ 5,853.66

Net Total Assets (Grand Total Receipts & Assets minus Total Disbursements) \$25,576.72

Auburn Bank CD # 49632	\$13,894.03	
Auburn National Bank CD # 48377	\$ 6,315.70	
July 18, 2002 balance in Checking Account	<u>\$ 5,366.99</u>	
Net Total Assets July 18, 2002		\$25,576.72

DISTRICT III
 NATIONAL ASSOCIATION OF BOARDS OF PHARMACY
 AND
 AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

YEAR	PLACE	CHAIRMAN OF BOARDS	CHAIRMAN OF SCHOOLS AND COLLEGES	SECRETARY TREASURER
1936	Charleston, S.C.	Bd. Mbr. From Charleston	William A. Prout	----
1937	----	----	----	-----
1938	Augusta, GA	Lew Wallace	Robert C. Wilson	Robert T. Walker
1939	Memphis, TN	Paul Molyneux	R.L. Crowe	Robert T. Walker
1940	Biloxi, MS			
1941	Miami, FL	E.L. Hammond	----	Robert T. Walker
1942	Charleston, SC	R.Q. Richards	Perry A. Foote	Paul Molyneux
1943	No meeting-voted no	Robert T. Walker	Robert C. Wilson	R.D. Rainey
1944	Atlanta, GA	Robert T. Walker	Robert C. Wilson	R.D. Rainey
1945	----	----	----	-----
1946	Birmingham, AL	Lehman M. Alley	L.S. Blake	E. W. Gibbs
1947	Jacksonville, FL	K. J. Attwood	E.L. Hammond	H.C. McAllister
1948	Chapel Hill, NC	R. A. McDuffie	Perry A. Foote	H. C. McAllister
1949	Charleston, SC	Robert T. Walker	M.L. Jacobs	H.C. McAllister
1950	Atlanta, GA	Robert T. Walker	Kenneth L. Waters	H.C. McAllister
1951	Biloxi, MS	George Roberts	E. L. Hammong	Kenneth L. Waters
1952	Gatlinburg, TN	R. L. Yeargan	E. A. Brecht	Kenneth L. Waters
1953	Charleston, SC	Tom Wyatt	Karl Goldner	Kenneth L. Waters
1954	Mobile, AL	Floy Macon	George Hargreaves	Kenneth L. Waters
1955	Asheville, NC	H.C. McAllister	E.A. Brecht	Kenneth L. Waters
1956	Pensacola, FL	Dewey Johnson	Perry A. Foote	Kenneth L. Waters
1957	Savannah, GA	Homer Avera	Melvin Chambers	Kenneth L. Waters
1958	Biloxi, MS	Chester E. Jones	Lewis Nobles	Kenneth L. Waters
1959	Gatlinburg, TN	Tom Lemond	Bill Prout	Lewis Nobles
1960	Columbia, SC	Horace McAlliis	Robert Morrison	Lewis Nobles
1961	Mobile, AL	Lester Haggard	Samuel T. Coker	Lewis Nobles
1962	Asheville, NC	Roger McDuffie	E.A. Brecht	Lewis Nobles

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YEAR	PLACE	CHAIRMAN OF BOARDS	CHAIRMAN OF SCHOOLS AND COLLEGES	SECRETARY TREASURER
1963	Daytona Beach, FL	John Stadnick	Charles Haupt	Lewis Nobles
1964	Jekyll Island, GA	Mills Harrison	Kenneth L. Waters	Lewis Nobles
1965	Biloxi, MS	E.E. Cammack	Charles W. Hartman	Lewis Nobles
1966	Memphis, TN	R.C. Hoskins	Seldon D. Feurt	Lewis Nobles
1967	Myrtle Beach, SC	Ed Walsh	R.W. Morrison	Lewis Nobles
1968	Point Clear, AL	Dan Dennis	Woodrow Byrum	Lewis Nobles
1969	Wrightsville Beach, NC	H.C. McAllister	George Hager	William B. Swafford
1970	Cocoa Beach, FL	H.F. Bevis	Kenneth Finger	William B. Swafford
1971	Jekyll Island, GA	N.W. Chism	Oliver Littlejohn	William B. Swafford
1972	Biloxi, MS	Robert H. Read	Joe B. McCaskill	William B. Swafford
1973	Knoxville, TN	Drew Haskins, Jr.	Seldon D. Feurt	William B. Swafford
1974	Myrtle Beach, SC	Stokes Alexander	William H. Golod	William B. Swafford
1975	Gulf Shores, AL	Mahlon Turner	Ben F. Cooper	William B. Swafford
1976	Wrightsville Beach, NC	Jesse M. Pike, Sr.	Seymour Blaug*	William B. Swafford
1977	Clear Water Beach, FL	H.F. Bevis	Charles Walker	William B. Swafford
1978	Savannah, GA	William A. Atkins	Howard Ansel	William B. Swafford
1979	Biloxi, MS	H.W. Holleman	Wallace L. Guess	Samuel T. Coker
1980	Gatlinburg, TN	Norval Webb	John Autian	Samuel T. Coker
1981	Charleston, SC	Howard Sudit	Julian H. Fincher	Samuel T. Coker
1982	Gulf Shores, AL	George S. Hiller	John E. Winter	Samuel T. Coker
1983	Wrightsville Beach, NC	William R. Adams, Jr.	Tom S. Miya	Samuel T. Coker
1984	San Juan, PR	Pedro J. Vanga	Victor D. Warner	Samuel T. Coker
1985	Howey-in-the-Hills, FL	Monroe Mack	Michael A. Schwartz	Samuel T. Coker
1986	Savannah, GA	George D. McFarland	Dick R. Gourley	Samuel T. Coker
1987	Biloxi, MS	H.W. Holleman	Wallace L. Guess	Samuel T. Coker
1988	Gatlinburg, TN	J. Floyd Ferrell, Jr.	Michael R. Ryan	Samuel T. Coker

1989	Charleston, SC	Terry B. Netherton	William F. Golod	Samuel T. Coker
1990	Orange Beach, AL	Clemont Carpenter	William H. Campbell	Samuel T. Coker

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YEAR	PLACE	CHAIRMAN OF BOARDS	CHAIRMAN OF SCHOOLS AND COLLEGES	SECRETARY TREASURER
1991	Ashville, NC	Jack G. Watts	Ronald W. Maddox	Samuel T. Coker
1992	Orlando, FL	T. Ray Lowe	William O. Hardigan	Samuel T. Coker
1993	Lexington, KY	Glenn L. Watson	Jordan L. Cohen	Samuel T. Coker
1994	St. Simons Island, Ga	Joseph Whaley	Stewart Feldman	Samuel T. Coker
1995	Biloxi, MS	William Jackie Thompson	Kenneth B. Roberts	Samuel T. Coker
1996	San Juan, PR	Arnaldo LaLuz	Ilia Oquendo	Samuel T. Coker
1997	Chattanooga, TN	John M. Smith	Dick Gourley	Samuel T. Coker
1998	Charleston, SC	Carol Bateman	Wayne Buff	Samuel T. Coker
1999	Destin, FL	Mark Conradi	Joseph O. Dean	Samuel T. Coker
2000	Asheville, NC	David R. Work	William H. Campbell	Samuel T. Coker
2001	Amelia Island, FL	Mike Stamitoles	Henry Lewis III	Samuel T. Coker
2002	Louisville, Kentucky	Thomas S. Foster	Kenneth B. Roberts	Samuel T. Coker