

**U.S. Department of Health and Human Services
Public Health Service
Centers for Disease Control and Prevention
National Center for Infectious Diseases**

**HEALTHCARE INFECTION CONTROL PRACTICES
ADVISORY COMMITTEE**

**February 24-25, 2002
Atlanta, Georgia**

PARTICIPANTS

HICPAC MEMBERS

Dr. Robert Weinstein, Chair
Dr. Jane Siegel, Co-Chair
Dr. Raymond Chinn
Dr. Alfred DeMaria, Jr.
Dr. Elaine Larson
Dr. William Rutala
Dr. William Scheckler
Ms. Beth Stover
Ms. Marjorie Underwood

LIAISON MEMBERS

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Epidemiology (APIC)
Ms. Dorothy Fogg, Association of
periOperative Registered Nurses
(AORN)
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Dr. Lynne Schulster
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Ms. Sandy Buhler, Kimberly-Clark
Ms. Laurie Clark, Kimberly-Clark
Ms. Kathy Eklund, OSAP
Mr. Gary Evans, Hospital Infection
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Ms. Catherine Harris, ICP Report
Mr. James M. Heilman, 3M Health Care
Dr. Marguerite Jackson, UCSD Med
Center
Dr. Ramon Moncada
Ms. Jean Randolph, AAOHN
Ms. Emily Rhinehart
Jan Schultz, Jan Schultz Associates
Ms. Sheri Winesett

AGENDA

Welcome, Introductions, Conflicts of Interest, Overview	Dr. Weinstein
Review and Discussion of the Interim Smallpox Plan and Guidelines	Dr. Rotz
<i>Guideline for Hand Hygiene, 2002</i> – Review and Discussion of Public Comments	Dr. Boyce
<i>Guideline for Hand Hygiene, 2002</i> – Proposal for Evaluation	Dr. Larson
National Quality Forum and Safe Practices	Dr. Jencks
<i>Guideline for Preventing Transmission of Infectious Agents in Healthcare Facilities, 2002</i> – Review and Discussion	Dr. Siegel; Dr. Jackson; Ms. Rhinehart
<i>Guideline for Environmental Infection Control in Healthcare Facilities, 2002</i> – Discussion of Final Draft	Dr. Chinn; Dr. Sehulster
Bioterrorism Preparedness for Healthcare Facilities	
Consultants' Meeting on Clinical Education	Dr. Scheckler
Connecting Health Departments to the Healthcare Delivery System	Dr. DeMaria
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Review and Discussion of the Draft Guidelines for Preventing the Transmission of <i>Mycobacterium tuberculosis</i> in Healthcare Settings, 2002	Dr. Ridzon
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Advisory Committee on Elimination of Tuberculosis	Dr. DeMaria
Advisory Committee on Immunization Practices	Dr. Siegel
NCID Board of Scientific Counselors	Dr. Weinstein
Secretary's Advisory Committee on Xenotransplantation	Dr. Scheckler
Action Plans/Future Meetings	Dr. Weinstein

EXECUTIVE SUMMARY

A meeting of the Healthcare Infection Control Practices Advisory Committee (HICPAC) was convened in Atlanta, Georgia, on February 25-26, 2002. Dr. Robert Weinstein served as Chair, Dr. Jane Siegel as Co-Chair, and Dr. Michele Pearson as Executive Secretary.

After a brief introductory session, the Committee was updated on the *CDC Interim Smallpox Response Plan and Guidelines*, released in November 2001. The plan is a working document that will be regularly updated to reflect comments from users/reviewers and changes in capacities and resources. HICPAC members offered their comments on the control measures and approaches proposed in the plan. Next, they discussed three HICPAC guidelines currently in development:

- *Guideline for Hand Hygiene, 2002* – Dr. John Boyce reviewed public comments and comments from the FDA and summarized actions taken in response by the Hand Hygiene Task Force. HICPAC members generally agreed with the revisions of the Task Force and offered some final comments on the draft. Dr. Boyce will prepare a revised draft, which will be submitted electronically to HICPAC members for a final review before submission to the *MMWR*. Dr. Elaine Larson presented a protocol for a study to assess the diffusion, adoption, effectiveness, and cost-effectiveness of the practices recommended in the Hand Hygiene Guideline.
- *Guideline for Preventing Transmission of Infectious Agents in Healthcare Facilities, 2002* – Co-authors Dr. Marguerite Jackson and Ms. Emily Rhinehart and HICPAC sponsor Dr. Jane Siegel presented the second draft of the Guideline, which incorporates comments and suggestions provided by HICPAC members at the last meeting. Dr. Siegel summarized the major changes in the document and moderated a discussion of Appendix A, Dr. Jackson presented a flowchart for the management of MDROs in healthcare settings, and Ms. Rhinehart reviewed the proposed performance measures. The authors will prepare a revised draft for presentation at the next HICPAC meeting.
- *Guideline for Environmental Infection Control in Healthcare Facilities, 2002* – HICPAC sponsor Dr. Raymond Chinn and lead author Dr. Lynne Schulster reviewed the performance measures and presented some remaining issues for discussion by the Committee before completion of the final draft. The authors will make the suggested modifications and submit the final document for publication in the *MMWR* (Executive Summary, Recommendations, and relevant references) and posting on the DHQP website (full text) .

Dr. Steve Jencks presented a draft document developed by the National Quality Forum (NQF). The NQF is developing a compendium of core, evidence-based practices to improve the safety of health care. Dr. Jencks requested HICPAC comments on a list of draft goals and corresponding practices related to nosocomial infections. HICPAC members developed a revised list version that reflects evidence-based practices

recommended in HICPAC Guidelines.

Dr. Renee Ridzon reported on the status and content of the draft TB Infection Control Guidelines and summarized conclusions and recommendations from the latest meeting of a group of expert reviewers. The Committee also received a series of updates on bioterrorism preparedness activities for healthcare facilities. Dr. William Scheckler reported on a consultants' meeting on clinician education for bioterrorism and other emerging infections. Dr. Al DeMaria reported on two Massachusetts surveillance systems designed for early warning of possible bioterrorism events: the Boston Emergency Department/Urgent Care Volume Surveillance system and the Harvard Vanguard Syndromic Surveillance project. Dr. Steve Solomon and Dr. Mike Miller provided updates on DHQP bioterrorism surveillance and laboratory activities, respectively.

Dr. Weinstein summarized the status of the six HICPAC Guidelines currently in progress and proposed potential topics for upcoming meetings. Several HICPAC members presented reports of meetings they attended as HICPAC representatives. Tentative dates for future HICPAC meetings are June 17-18, 2002; October 21-22, 2002; and February 24-25, 2003. There were no public comments.

MINUTES

A meeting of the Healthcare Infection Control Practices Advisory Committee (HICPAC), National Center for Infectious Diseases (NCID), was held on February 24-25, 2002, at the Marriott Century Center, Atlanta, Georgia. Dr. Robert Weinstein served as Chair, Dr. Jane Siegel as Co-Chair, and Dr. Michele Pearson as Executive Secretary.

WELCOME, INTRODUCTIONS, CONFLICTS OF INTEREST, OVERVIEW

Dr. Robert Weinstein

Dr. Weinstein opened the meeting, after which members and guests introduced themselves. Dr. William Rutala reported consultative activities with 3M and the Chemical Specialties Manufacturers' Association; Dr. Weinstein reported consultative activities with Cubist, U.S. Micron, and Evanston Hospital. Other members reported no new conflicts of interest. Dr. Weinstein presented a plaque to Dr. Ramon Moncada in appreciation for his 6-year HICPAC tenure. Dr. Weinstein then reviewed the agenda and gave an overview of plans for the meeting.

REVIEW AND DISCUSSION OF THE INTERIM SMALLPOX PLAN AND GUIDELINES

Dr. Lisa Rotz

The possibility for the use of smallpox virus as a bioterrorism agent prompted the updating of a plan previously developed by CDC for responding to the potential importation of smallpox during the 1970s. The *CDC Interim Smallpox Response Plan and Guidelines*, released in November 2001, is directed to state and local public health bioterrorism response planners and incorporates and extends many of the approaches that were used successfully 30-40 years ago to control smallpox outbreaks. The plan is a working document that will be regularly updated to reflect comments from reviewers and changes in capacities and resources. CDC is currently soliciting comments from professional organizations, non-governmental organizations, consultant and advisory groups, and the public and will be publishing a revised plan that will also be periodically reviewed and revised. Comments can be submitted electronically at: cdcsmallpoxplan@cdc.gov.

The document outlines public health strategies to guide the public health response to a confirmed case of smallpox. It outlines criteria for smallpox response plan implementation, notification procedures for suspected cases, CDC and state/local responsibilities and activities, and vaccine and personnel mobilization. The plan also provides guidelines for surveillance, contact tracing, and epidemiologic investigations; vaccination; isolation and quarantine; decontamination; laboratory diagnosis; specimen collection and transport; and communication. Annexes cover clinical presentation, patient care, vaccination clinic procedures, adverse event reporting, and pre-event planning.

The plan is based on a "ring vaccination" search-and-containment strategy, which

involves isolating confirmed and suspected smallpox cases and vaccinating and monitoring a “ring” of persons around each case and contact. Priority groups for vaccination are also delineated. Success will be based on the amount of vaccine available, personnel resources and readiness, and effective use of other outbreak control measures (e.g., isolation and quarantine).

Dr. Rotz requested HICPAC advice regarding isolation measures and decontamination procedures. The document designates three groups with specific isolation considerations (confirmed cases, possible cases, and contacts under surveillance) and proposes three types of facilities for use in a smallpox emergency. Type C (“contagious”) facilities are isolation facilities that would house confirmed, probable, and suspected smallpox cases. Type X (“uncertain diagnosis”) facilities would house vaccinated febrile contacts without rash during the observation period. Type R (“residential”) facilities are for asymptomatic, non-infectious contacts who are under fever surveillance. Decontamination guidelines for medical waste, linens, medical equipment, isolation rooms, transport vehicles, and private homes/vehicles are based on 1970s practices and current protocols for laboratory decontamination.

Discussion – In addition to written comments already submitted and included in the meeting materials, HICPAC members offered these comments on the interim smallpox plan:

- The Type C/X/R facility approach is conceptually difficult. Many practical issues are not addressed, especially regarding Type C facilities, patient transport, isolation precautions, egress points, and variability among communities. Flexibility and negotiation will be needed to facilitate implementation at the local level.
- Implementation of this plan will also require considerable training. Strategies for educating healthcare providers and the public health community should be included.
- Healthcare facilities need guidance on handling patients in emergency departments, waiting rooms, and children’s hospitals.
- There are no data to support smallpox isolation measures that go beyond TB control measures.
- Engineering colleagues should be involved in subsequent revisions.

Dr. Rotz and colleagues will communicate with Dr. Pearson to ensure continued HICPAC involvement and participation in revisions of the smallpox plan.

GUIDELINE FOR HAND HYGIENE, 2002 – REVIEW AND DISCUSSION OF PUBLIC COMMENTS

Dr. John Boyce

Response to Public Comments

Dr. Boyce reviewed the public comments on the Guideline and the actions taken in

response by the Hand Hygiene Task Force. HICPAC members added these changes:

- Page 8 – Delete lines 7-9 (“The guideline was not developed for ... establishments.”).
- Page 45 – Delete lines 6-8. Text should read: “After gloves are removed, hands should be washed with a non-antimicrobial or an antimicrobial soap and water. Healthcare personnel with suspected or documented exposure to *B. anthracis*-contaminated items....”

Response to FDA Comments

Dr. Boyce reviewed the comments from the FDA and the actions taken in response by the Hand Hygiene Task Force.

- HICPAC members approved the revised language on the antiviral activity of alcohols. The Task Force will research the antiviral activity of other antiseptic agents for inclusion in this section.
- HICPAC members agreed that the following statement should be added to Section 9.2 Alcohols: “The FDA has classified alcohol 60% to 95% by volume, when properly formulated, as generally considered safe and effective for use in antiseptic handwash or healthcare personnel handwash preparations.”
- Despite FDA concerns, HICPAC members agreed with the Task Force that laboratory-based studies and clinical trials support: 1) the statement that alcohol-based handrubs are more effective than handwashing in reducing the number of viable bacteria on the hands, and 2) the statement that cleaning hands with an alcohol-based handrub is associated with less skin irritation and dryness than handwashing with an antimicrobial soap. Given that an FDA representative was not present at the meeting, Dr. Weinstein will schedule a follow-up conference call with the FDA to discuss this decision.
- With regard to FDA comments on the misrepresentation of the efficacy of some of the agents discussed in the Guideline (e.g., chloroxylenol, quaternary ammonium compounds, triclosan), the members advocated alluding to the FDA’s current (1994) classification of these agents but emphasizing that the Guideline is designed to provide healthcare institutions with practical recommendations regarding products that are in common use. The Task Force will work toward striking a balance between the FDA’s criteria from 1994 and the current evidence base.

Review of Revised Recommendations

Dr. Boyce reviewed comments on the recommendations and the actions taken in response by the Hand Hygiene Task Force. HICPAC members had these additional suggestions:

- Recommendation I.B – Delete.
- Recommendations I.D through I.L – Revise these recommendations for the Committee’s review. For example, group D, G, J, K, and provide an option for

- soap and water; the data do not support a dogmatic approach. Move the sentence beginning “Alternatively” (page 90, lines 6-8) to the end of the section.
- Recommendation I.M – Note that towelettes must be wet to deliver the product.
 - Recommendation II.A – Move the underlined sentence to the Background section. Dr. Larson will look for references to support a statement that an alcohol-based handrub that keeps the hands wet for 10 seconds is equivalent to a 1-minute hand wash.
 - Recommendation II.B – Revise to read: “When washing hands with a liquid soap and water, wet hands first with water, apply an amount of product.... Rinse hands with water and dry”
 - Recommendations II.C and II.D – Add references. Dr. Larson will provide references for II.C; Dr. Rutala will provide references for II.D.
 - Recommendation III.A – Cite primary sources; Dr. Larson will provide references. Add wording to ensure that jewelry is removed for and left off after the hand scrub.
 - Recommendation III.B – Provide two alternatives for surgical hand antisepsis. Consider adding a table to summarize the data on surgical hand scrub formulations.
 - Recommendations III.C and III.D – Dr. Boyce will research FDA requirements and provide alternative wording, restating C and D as one recommendation with two possible options (hand rub and antimicrobial soap) and indicating that a brushless protocol may be used.
 - Recommendation III.F – Provide an option for use of antimicrobial soap for the pre-wash.
 - Recommendations IV.C and IV.D – Add references.
 - Recommendation VI.A – Change to: “Do not wear artificial fingernails or artificial nail additives when having direct contact with patients in high-risk settings, such as”
 - Recommendation VI.B – Delete.
 - Recommendations VI. D-F – Leave as is, but add text on gloves to the Background that is consistent with the Isolation Guideline.
 - Recommendation VII.B – Change to: “Periodically monitor healthcare workers’ adherence....” Change to Category IB. In the Background section, cite data showing falloff after 1-3 months but acknowledge methodological limitations.
 - Section IX – Make “Performance Measures” Part III of the document. Separate the examples into process measures and outcome measures. Add outcome measures for tracking adherence to recommendations and linking adherence to infection rates. Dr. Pearson will work on standardized introductory text for the performance measures section of each Guideline.

Next Steps

- HICPAC members will submit additional comments to Dr. Boyce.
- Dr. Boyce will prepare a revised draft, which will be submitted electronically to HICPAC members for a quick-turnaround review.

- Dr. Boyce will make any required changes, and Dr. Pearson will submit the draft for *MMWR* clearance and publication.

GUIDELINE FOR HAND HYGIENE, 2002 – PROPOSAL FOR EVALUATION

Dr. Elaine Larson

Dr. Larson preceded her remarks by informing the group of a higher-than-expected rate (5%) of adverse reactions to alcohols in an NIH-funded clinical trial. She then presented a protocol that has been submitted to NIH for a study to:

- Assess the diffusion and adoption of clinical practices recommended in the Hand Hygiene Guideline via a national survey of 1,274 hospitals
- Identify barriers to the adoption and implementation of the Hand Hygiene Guideline via a survey of 480 clinicians in ICUs in 13 hospitals
- Compare nosocomial infection rates in seven hospitals before and after implementation of the Guideline recommendations
- Calculate the costs and cost-effectiveness of implementation

HICPAC comments on the protocol and study instruments are welcome.

NATIONAL QUALITY FORUM AND SAFE PRACTICES

Dr. Steve Jencks

The National Quality Forum (NQF) is a not-for-profit membership organization created to develop and implement national standards for healthcare quality measurement and reporting. Established as a public-private partnership, the NQF is governed by a Board of Directors representing healthcare consumers, purchasers, providers, health plans, and experts in health services research. Members participate in the Forum through one of four Member Councils: Consumer Council, Purchaser Council, Provider and Health Plan Council, and Research and Quality Improvement Council. Proposed standards are developed in a public process, reviewed by the four Councils, and finalized by the NQF Board of Directors.

The NQF is developing a compendium of core, evidence-based practices to improve the safety of health care. The compendium is designed to be used by hospitals, healthcare providers, purchasers, federal agencies, and consumers to reduce the likelihood of medical errors and improve care. Funding agencies are the Agency for Healthcare Research and Quality (AHRQ) and the Center for Medicare and Medicaid Services (CMS). The Safe Practices Steering Committee is chaired by Maureen Bisognano (Institute for Healthcare Improvement) and Henri Manasse (American Society of Health System Pharmacists). Membership reflects a range of disciplines, but infection control is not represented.

The compendium is scheduled for publication in September 2002. A final draft will be presented to the Steering Committee on Thursday, February 28, 2002; the deadline for

input is Wednesday, February 27, 2002. The document is based on the following definition: "Safety is freedom from harms that result from care or the environment of care." System characteristics or practices included in the compendium are required to: 1) improve safety, 2) be clearly defined, 3) be supported by evidence or be obviously beneficial, and 4) be ready to go. Characteristics or practices should also: 1) reduce large or frequent harms, and 2) applicable to several settings.

The draft was derived from a report by the Stanford-UCSF Evidence-Based Practice Center. Public proposals were solicited and reviewed by the Steering Committee, which then identified a set of core practices and systems. The final product will consist of an overview, lists of goals and four types of corresponding practices (system characteristics, accepted practices, emerging practices, manufacturing and regulatory practices), and a list of practices needing further research. Dr. Jencks requested HICPAC comments on a list of draft goals, corresponding accepted and emerging practices, and practices needing further research.

Discussion – HICPAC members expressed dismay about both the "flawed" process that included no input from HICPAC, CDC, APIC, or SHEA, and the resulting document that has little basis in science and does not reflect the evidence-based recommendations in existing HICPAC guidelines. Their initial reaction was to recommend setting aside the draft pending HICPAC review and provision of evidence-based input. After some discussion, however, the group was able to suggest changes to the draft based on evidence-based HICPAC recommendations, which Dr. Jencks subsequently developed into the following revised list of goals and practices for submission to NQF:

Goal	Proven Practices
Prevent central intravenous catheter-related infections.	<p>Disinfect clean skin with a 2%-chlorhexidine-based preparation before inserting a catheter.</p> <p>Use maximum barrier precautions (sterile gloves, sterile long-sleeved gowns, full-size drape, sterile masks and caps) during central venous catheter insertion.</p> <p>Remove any intravascular catheter that is no longer essential (especially CVCs in non-ICU settings that have not been used for 24 hours).</p>
Reduce surgical-site infections.	<p>For specific surgical procedures with proven benefit of prophylaxis, administer a prophylactic antimicrobial agent suited to the likely pathogen by the intravenous route, timed such that a bactericidal concentration is established in serum and tissues when the incision is made. Maintain therapeutic levels of the agent in serum and tissues throughout the operation and until, at most, a few hours after the incision is closed.</p>

- Prevent person-to-person transmission of infections. Decontaminate hands before and after touching a patient or doing an invasive procedure and after contact with body fluids, excretions, mucous membranes, broken skin, wound dressings, or objects immediately around the patient. If hands are visibly dirty or contaminated with proteinaceous material (including blood or body fluids), wash with soap and water; otherwise, decontaminate with an alcohol-based handrub.
- Prevent respiratory tract illnesses. Provide influenza immunizations to high-risk patients (per ACIP recommendations) in all settings to reduce the risk of healthcare-acquired influenza and resultant illnesses. Immunize healthcare workers against influenza in all healthcare settings to reduce the risk of influenza transmission to patients. Elevate the head of the bed 35° to 45° for patients on mechanical ventilators or with enteral tubes to prevent aspiration.

Research Needed

Use of continuous oscillation (mechanical beds that use either rotating platforms or alternating inflation/deflation of mattress compartments to turn patients from side to side) to prevent ventilator-associated pneumonia.

Use of heparin or low-dose coumadin to prevent clotting and catheter-related blood infections.

Tunneling of short-term central venous catheters through the subcutaneous tissue to prevent central venous catheter-related blood infections.

Use of silicone urethral catheters coated with hydrogel and silver salts.

Appropriate settings and uses for antibiotic-impregnated central venous catheters (e.g., chlorhexidine/silver sulfadiazine-impregnated catheters and minocycline/rifampin-coated catheters), particularly in pediatric populations and non-ICU settings.

Administration of high concentrations of oxygen, maintaining blood sugar in the normoglycemic range, and keeping the patient warm during surgery as measures to reduce surgical site infection rates.

Use of ultrasound guidance during CVC insertion to allow insertion in sites less vulnerable to infection.

Dr. Jencks will keep the Committee informed of further progress on the document.

GUIDELINE FOR PREVENTING TRANSMISSION OF INFECTIOUS AGENTS IN HEALTHCARE FACILITIES – REVIEW AND DISCUSSION OF DRAFT 2

Dr. Jane Siegel; Dr. Marguerite Jackson; Ms. Emily Rhinehart

Response to HICPAC Comments

Dr. Siegel reported that this draft incorporates comments and suggestions provided by HICPAC members at the last meeting. In response to the comments, the authors:

- Added new sections on burn units and adjunctive measures
- Added performance measures
- Added Appendix A
- Expanded the discussion of MDROs, jails/prisons, and agents of bioterrorism
- Deleted shelters as a site of healthcare delivery
- Revised terminology, as suggested (e.g., Standard Precautions, Enhanced Precautions, Airborne Infection Isolation)

The authors have these additional questions for HICPAC members:

- Burn units – Given the lack of data, does the Committee agree that the Guideline should include a discussion in the Background but no recommendations for infection control in burn units?
- Adjunctive measures – What should be included on decolonization and postexposure chemoprophylaxis?
- Performance measures – Where should these be located in the document? Are the measures appropriate?
- Should detailed recommendations be repeated from other documents?
- Is the information on Creutzfeldt-Jakob disease in Appendix A adequate?
- Is the information on smallpox in Table 3 adequate?

Algorithm for Management of MDROs

Dr. Jackson presented and explained the flowchart titled “Risk Assessment for Management of MDROs in Healthcare Settings” and sought comments from HICPAC members on the flowchart’s usefulness, clarity, and comprehensiveness.

Discussion – HICPAC members had these comments on the algorithm:

- Combine the two squares at the start of the algorithm pertaining to patients with positive cultures
- Although the algorithm works conceptually, many of the decisions are not dichotomous. The information might be presented more accurately in a table.
- Given the resource issues for state laboratories, reduce the emphasis on molecular typing; it is not necessary in most circumstances. Saving strains is more important than molecular typing capacity.
- Treatment is a complex decision. Do not include treatment in the algorithm;

- instead, “refer for medical evaluation.”
- Clarify that the flowchart is presented not as a recommendation but rather as a tool to stimulate the infection control team to plan for management of MDROs.
- The algorithm should be supported by accompanying text in the background section

Appendix A: Type and Duration of Precautions Recommended for Selected Infections and Conditions

Dr. Siegel raised several issues for discussion, resulting in these suggestions:

- Cutaneous anthrax – The authors and Committee members will review new data/references and consider whether to recommend Standard or Contact Precautions.
- Aerosolized spore-containing powder – Change to “patient contaminated with aerosolizable spore-containing powder.” Include a separate section on decontamination recommendations for agents of bioterrorism, i.e., distinct from infection control recommendations for patients with known or suspected anthrax illness.
- Aspergillosis – Recommend Standard Precautions, but consider contact or airborne precautions if there is soft-tissue infection with massive drainage.
- Chickenpox/measles – There was a lengthy discussion of whether non-immune persons entering the room of a person with varicella zoster or measles should wear a surgical mask versus an N95 respirator. HICPAC members generally leaned toward recommending N95 respirators.
- Creutzfeldt-Jakob disease – Reference the Sterilization/Disinfection and Environmental Guidelines for detailed recommendations.
- Ebola – Recommend Airborne and Contact Precautions; provide a more comprehensive review of the topic.
- Influenza – Acknowledge the possibility of airborne transmission. Verify the 5-day duration of infectivity. Add a recommendation to keep doors to patient rooms closed.
- MDROs – Refer to Table 3 and algorithm. Add definitions and examples, but do not break out by source of isolate.
- Polio – Change to Contact Precautions.
- Reye’s syndrome – Delete.
- Varicella pneumonia – Add to pneumonia section.
- Vaccinia – Add.

Performance Measures

Ms. Rhinehart reviewed the performance measures and moderated the subsequent discussion. Committee members had these comments:

- Use action verbs.
- Pare down the list to include only essential activities in the Guideline. A large menu of options defeats the purpose of focusing on things that are absolutely

essential.

- Include the boilerplate introductory material on performance measures that Dr. Pearson is preparing. Acknowledge in the introduction that some activities may be easier to do in some settings than in others.
- A.1 and A.2 – Consider combining. An additional problem is that these depend on activities described in B.4 and B.5.
- B.1 and B.2 – Delete.
- B.5 and B.6 – These would present problems in implementation. This information is not available from record reviews.
- C.1 and C.2 – Define “exposure.”
- C.3 – Delete or be more explicit.

Dr. Weinstein concluded the session by commending the authors on the superb document and asking members to submit any additional comments in writing. A revised draft will be presented at the next meeting.

GUIDELINE FOR ENVIRONMENTAL INFECTION CONTROL IN HEALTHCARE FACILITIES, 2002 – DISCUSSION OF FINAL DRAFT

Dr. Raymond Chinn; Dr. Lynne Schulster

Response to Final Comments

Dr. Chinn reviewed the performance measures and presented some remaining issues for discussion by the Committee before completion of the final draft. The discussion generated these recommendations:

- Recommendation 1-2.7.e – The Committee voted to maintain the Category IB/IC classification.
- Section 1-3 – Change the title to “Environmental Infection Control Ventilation Requirements.”
- Recommendation 2-5.3 – The Committee approved the change in wording suggested by program staff and voted to maintain the Category IB classification. These changes should be duplicated in the Pneumonia Guideline.
- Recommendation 2-5.4 – Delete.
- Recommendation 3-1.4.a – Delete “water/detergent.”
- Recommendation 3-1.5 – Delete “stated contact times.”
- Performance measure 6 – Revised text was presented, but the Committee voted to keep the original wording. The intent of the performance measure is to ensure that healthcare settings have a set strategy for dealing with legionella.
- Guideline Title – Delete “and Prevention” from the Guideline title.
- References – To refer readers to other CDC guidelines, cite the appropriate website address. For example, cite the website for the Smallpox Response Plan so that readers will have access to the most current version of this “living document”.

Next Steps

- The authors will make the required modifications and submit the final document to Dr. Pearson.
- Dr. Pearson will initiate the clearance process for the *MMWR* version (Executive Summary, Recommendations, and relevant [renumbered] references) and will discuss with the editors of *ICHE* and *AJIC* simultaneous publication the Guideline in their journals.
- Dr. Pearson will initiate the process for posting the full text on the DHQP website.
- As appropriate, Dr. Pearson and staff will pursue discussions with the American Society for Healthcare Engineering (ASHE) regarding printing of a hard-copy version of the full Guideline.

HICPAC encourages wide publication of the *MMWR* version of the document.

BIOTERRORISM PREPAREDNESS FOR HEALTHCARE FACILITIES

Consultants' Meeting on Clinical Education

Dr. Scheckler represented HICPAC at a one-day consultation on January 7, 2002, during which representatives from medical societies, professional organizations, academia, and government agencies met to discuss ways to enhance clinician education for bioterrorism and other infections. The meeting was one of a series of NCID consultations convened to discuss lessons learned from the October 2001 bioterrorist attack on the United States. The purpose was to identify improved methods for providing information and decision support for frontline clinicians relevant to the diagnosis and management of bioterrorism-related and other emerging infections. The objectives were to: 1) understand the scope and impact of current outreach and educational initiatives for clinicians and clinical laboratorians that address recognition, diagnosis, and management, and 2) determine how CDC can promote the enhancement of these initiatives through collaboration with professional organizations, societies, and others. To illustrate effective clinician education activities in the United States, a panel of representatives reported on their clinical information resources. Meeting participants also met in groups to respond to a series of questions related to clinician education needs before and during a crisis event and to develop preliminary recommendations.

Connecting Health Departments to the Healthcare Delivery System

Dr. DeMaria reported on two Massachusetts surveillance systems for early warning of possible bioterrorism events. The Boston Emergency Department/Urgent Care Volume Surveillance system counts emergency department/urgent care visits in nine facilities. New sites are being recruited. The system was designed to minimize the effort of hospital-based personnel. Each night, the medical information systems at each facility send to a secure web-based server a report on the number of persons seen in their emergency department or acute-care site. This figure is automatically compared to the expected number of visits for that site and adjusted for the season and day of the week. If it is higher than expected, a one-page follow-up form is automatically sent to a pre-identified contact at the hospital to determine if further investigation is required.

The Harvard Vanguard Syndromic Surveillance project, funded by CDC, uses automated medical records for rapid identification of illness syndromes. Data are obtained from diagnoses assigned during routine care by clinicians in Harvard Vanguard Medical Associates, a large, multi-specialty group practice in Eastern Massachusetts. The practice's electronic medical system is queried each night for specific diagnoses assigned during the preceding day. Diagnoses of interest are grouped into syndromes. Rates of new episodes in each syndrome are computed for all of eastern Massachusetts and each census tract. The population at risk is persons with prepaid health care. Expected numbers of new episodes are obtained from a model that uses data from prior years. These expected numbers allow estimation of the probability of observing specific numbers of cases, either overall or in specific census tracts. Line lists are provided when an unusual number of events occurs. Additional information is available in Lazarus R et al. *BioMed Central PH* 2001; 1:9 (<http://www.biomedcentral.com/1471-2458/1/9>).

DHQP Bioterrorism Surveillance Update

Dr. Steve Solomon provided a brief update on DHQP bioterrorism activities. The focus is on two areas: clinician education and surveillance. DHQP's data focus is on bridging the gap between the clinical care and public health systems, i.e., between detection and response. Components include organization of data in healthcare facilities and organization of data locally, regionally, and nationally. The Division is seeking funding for research and development related to clinician education and surveillance/linkages and is interested in innovative ways (e.g., surrogates, algorithms) to identify markers of severity of illness.

Laboratory Update

Dr. Mike Miller gave the laboratory update. The current focus of the DHQP laboratory is on: 1) survival of bioterrorism agents in water, and 2) antimicrobial susceptibility testing of bioterrorism agents. The laboratory is currently functioning as a surge capacity laboratory for environmental samples.

OVERVIEW OF HICPAC GUIDELINE ACTIVITIES

Dr. Robert Weinstein

Six Guidelines are currently in progress:

- IV Guideline – Complete; will be submitted to *MMWR*.
- Environmental Guideline – Completed today; will be submitted to *MMWR*.
- Hand Hygiene Guideline – One more HICPAC review (electronic), followed by submission to *MMWR*.
- Disinfection/Sterilization Guideline – In CDC clearance. After clearance, will be submitted to the *Federal Register*. Public comments will be reviewed at the next HICPAC meeting.
- Pneumonia Guideline – In CDC clearance. After clearance, will be submitted to the *Federal Register*. Public comments may or may not be reviewed at the next

- HICPAC meeting.
- Isolation Guideline – Revised version will be presented at the next HICPAC meeting

Potential topics for subsequent meetings include:

- New Guidelines (e.g., UTIs; antimicrobial stewardship; prosthetic devices)
- Use of performance measures
- Evaluation of Guideline impact
- HICPAC contribution to bioterrorism issues
- Interface/overlap between HICPAC activities and patient safety initiative

REVIEW AND DISCUSSION OF THE DRAFT GUIDELINES FOR PREVENTING THE TRANSMISSION OF *MYCOBACTERIUM TUBERCULOSIS* IN HEALTHCARE SETTINGS, 2002

Dr. Renee Ridzon

Dr. Ridzon reported on the status and content of the draft TB Infection Control Guidelines and summarized conclusions and recommendations from the latest meeting (January 23-24, 2002) of a group of expert reviewers. Her points included the following:

- TB infection control program – Every healthcare setting should have a TB infection control program that includes administrative, environmental, and personal respiratory controls, as applicable. The program should evolve from an *a priori* decision about whether persons with known/suspected TB will be treated in the healthcare setting. The program should include: assignment of responsibility, a written plan, prompt recognition or patients with known/suspected TB, and periodic reassessment. In settings where care is not provided to persons with known/suspected TB, the program should include a triage plan. In settings that do provide care, the program should include additional administrative and environmental controls and a respiratory protection program.
- TB risk assessment – This consists of an evaluation of the risk of TB in the setting and serves as a tool for ongoing evaluation of control measures. The risk assessment considers the community's TB profile and the number of TB patients in the setting and includes a determination of the risk classification for development of a skin testing program. Findings from the risk assessment form the basis for decisions about environmental and respiratory controls and identify areas of increased risk.
- Risk classification – The recommended frequency of skin testing for healthcare workers is derived from the classification of risk, which is based in turn on the size of the healthcare facility and the number of TB patients/year. Proposed cutoff numbers of patients and beds are still under discussion.

- Special circumstances and settings – The guideline includes general recommendations that apply to all settings as well as specific considerations for settings such as emergency rooms, bronchoscopy suites, autopsy rooms, home health care, and TB clinics.
- Ruling out TB – Three negative sputum smears should be collected 8 to 24 hours apart, with at least one collection in the early morning. In most cases, collection will occur over a 2-day period. Isolation can be discontinued when the likelihood of infectious TB is negligible and either another diagnosis is assigned or there are three negative sputums.
- Referral for medical evaluation – The guideline includes a table of cutoffs for referral of tuberculin skin test (TST) reactors for medical evaluation, based on the purpose of the TST.
- Airborne infection isolation rooms (AIIRs) and other negative-pressure rooms – The guideline recommends: 1) ventilation rates of 6 (existing) and 12 (new) air changes per hour, 2) a minimum of two air changes per hour of outdoor air in AIIRs, and 3) 0.01" of water as the minimum pressure differential for negative pressure. Expanded maintenance and monitoring recommendations are included.
- HEPA filters – These are required for isolation booth exhaust to the room and AIIR room exhaust to the general ventilation system. They are optional for room air recirculation units and portable air cleaners.
- UVGI – The document states that UVGI may be used as a supplement to ventilation but not as a substitute for negative pressure. The discussion and recommendations emphasize safety and maintenance.
- Respiratory protection – Selection of respirators should be based on filtration efficiency and fit. The current recommendation is for annual fit testing, but the expert consultants advised re-exploring the scientific basis for this recommendation. Data presented at the consultants' meeting showed that: 1) fit tests vary in their ability to ensure that respirators provide the expected protection; 2) the performance of N95 respirators varies; 3) most protection is provided by well-designed respirators in combination with fit testing, but fit testing adds minimal additional benefit to protection afforded by the best fitting respirator; and 4) research on a more accurate fit test is needed. HICPAC members agreed that a recommendation for annual fit testing is a problem.

LIAISON REPORTS

Meeting for the Re-Evaluation of 1996 Consensus Guidelines for the Prevention of Group B Streptococcus (GBS)

Ms. Beth Stover attended the meeting on November 1-2, 2001, as HICPAC liaison. The

result of the meeting was the development of revised regimens for intrapartum antimicrobial prophylaxis for perinatal GBS. Penicillin remains the agent of choice, but, given the increasing prevalence of GBS strains resistant to clindamycin and/or erythromycin, alternative strategies for penicillin-allergic women were updated. For penicillin-allergic women without immediate risk for anaphylaxis, cefazolin is the agent of choice. For women at high risk for anaphylaxis, the recommendation is for clindamycin or erythromycin if the susceptibility to these agents is known. If resistance to clindamycin and erythromycin is identified or susceptibility is unknown, vancomycin is recommended. HICPAC members have been asked to comment on the draft recommendations.

Discussion – The members advised obtaining pharmacokinetic input on the vancomycin dosing; the 2-gram IV load could be problematic. Erythromycin IV could also be a problem, as it is associated with gastrointestinal side effects. Members will submit additional comments in writing to Ms. Stover.

Advisory Committee on Elimination of Tuberculosis (ACET)

Dr. DeMaria provided highlights from the last ACET meeting. In November 2001, the FDA approved the interferon gamma assay, an alternative to the TST. Interpretation is less subjective than for the TST, and the test may be affected less by prior BCG vaccination and reactivity to nontuberculous mycobacteria than the TST. The utility of the test in clinical practice remains to be evaluated.

Despite the reports of severe and fatal liver injuries associated with the 2-month regimen of rifampin and pyrazinamide, the recommendation for use of this regimen has not been abandoned. The regimen is not recommended for persons with underlying liver disease or for those who have had isoniazid-associated liver injury. Persons being considered for treatment with the regimen should be informed of potential hepatotoxicity, and persons on the regimen should be monitored every 2 weeks.

Advisory Committee on Immunization Practices (ACIP)

Dr. Siegel reported on the ACIP meeting held on February 20-21, 2002. Among the highlights were updates on anthrax and influenza vaccine. Among the 10,000 anthrax-exposed persons for whom postexposure regimens were recommended, 5,420 were educated about the program, and 1,740 (32%) enrolled; 1,548 persons opted for antibiotics only, and 192 chose antibiotics plus vaccine. Thus far, only one adverse event has been reported in the antibiotics-only group. Other civilian uses for the vaccine are unclear. Influenza vaccine recommendations for the 2002-3 season were presented and discussed. Changes in influenza vaccine recommendations to be published in April 2002 will encourage use of the vaccine in infants ages 6-23 months and in their household contacts and out-of-home caretakers. A definite recommendation is anticipated in 1-3 years when a stable vaccine supply is more likely. The smallpox vaccine plan was also presented, and comments were solicited. Revised recommendations for use of hepatitis B virus vaccine are scheduled for publication in August 2002.

NCID Board of Scientific Counselors (BSC)

The BSC has held no face-to-face meetings since the last HICPAC meeting, but Dr. Weinstein did participate in one of two BSC conference calls to review lessons learned from the bioterrorism response. A subsequent BSC conference call addressed CDC/NCID budget issues.

Secretary's Advisory Committee on Xenotransplantation (SACX)

Dr. Scheckler reported on the November 29-30, 2001, meeting. Participants discussed proceedings from recent meetings on xenotransplantation, met in working groups on the science of xenotransplantation and informed consent issues, and were updated by the FDA on applications for new drugs in the area of xenotransplantation. The main concern in the field is transmission of an unexpected or potentially unknown infection from an animal cell line or animal organ to the human recipient and potentially to the human population around the recipient. Porcine endogenous retroviruses are generating the most concern, but the risk is speculative.

ACTION PLANS/FUTURE MEETINGS

Action Plans

Committee members should email Dr. Weinstein or Dr. Siegel their suggestions for agenda topics for the next meeting. Specific action plans include the following:

Dr. Chinn

- Finalize the Environmental Guideline.
- Review other Guidelines, as requested.

Dr. DeMaria

- Submit comments on the Isolation Guideline to Dr. Siegel.
- Identify another HICPAC representative to attend ACET meetings.
- Review Guidelines, as requested.

Dr. Rutala

- Respond to comments on the Disinfection/Sterilization Guideline.
- Provide reference on drying hands to Dr. Boyce.
- Provide reports on cutaneous anthrax transmission to Dr. Weinstein.

Dr. Bill Scheckler

- Attend SACX meetings.
- Review Guidelines, as requested; a preference is to divide up the Guidelines so that members can review specific parts in depth.

Dr. Jane Siegel

- Prepare the next draft of the Isolation Guideline.
- Attend ACIP meetings.
- Participate in conference calls, as requested.

- Review other Guidelines, as requested.

Ms. Beth Stover

- Submit comments on GBS recommendations to Dr. Pearson and GBS program staff.

Dr. Robert Weinstein

- Review Guidelines as requested, and assist in finalizing those that are in progress.
- Participate in conference calls to plan the next meeting.
- Attend BSC meetings.
- Meet with Dr. James Hughes to inform him about HICPAC activities.
- Interact with the National Quality Forum.

Future Meetings

Tentative dates for future HICPAC meetings are:

- June 17-18, 2002
- October 21-22, 2002
- February 24-25, 2003

There were no public comments.

Robert A. Weinstein, MD

Date _____