

A CURRICULUM GUIDE FOR PUBLIC-SAFETY AND EMERGENCY-RESPONSE WORKERS

Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Centers for Disease Control

National Institute for Occupational Safety and Health

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Public-Safety and Emergency-Response
Workers**

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of
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and
Hepatitis B Virus**

**Department of Health and Human Services
Public Health Service
Centers for Disease Control
Atlanta, Georgia**

February 1989

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Prepared under contract P. O. Number 90-5735 for the National Institute for Occupational Safety and Health.

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DHHS (NIOSH) Publication No. 89-108
HIV/NIOSH/2.89/002

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Section 1: ABOUT THIS CURRICULUM GUIDE

This curriculum guide, or course of study, is designed to meet the training and education needs of public safety workers and emergency medical workers who may be exposed on the job to human immunodeficiency virus (HIV) and hepatitis B virus (HBV). This curriculum guide is based on federal guidelines for preventing occupational transmission, or spread, of HIV and HBV among worker groups. These include public-safety workers (fire service, law enforcement, and correctional facility personnel) and emergency-medical workers (emergency-medical technicians and paramedics).

The Centers for Disease Control (CDC) wrote the guidelines with input from representatives of each public safety group. The guidelines, called "Guidelines for Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health-Care and Public-Safety Workers," are included in this guide.

What does the curriculum cover?

The curriculum is a model that you can adapt to fit the needs of your organization. As such, it covers how HIV and HBV are spread; personal prevention practices; universal precautions; protective equipment; specific workplace prevention practices, including decontamination; and management of exposures.

Who can benefit from this curriculum guide?

Whether you train public-safety worker managers or line staff, this guide was written for you. You may be a fulltime trainer or someone whose parttime responsibilities include providing training. This trainer group includes administrators, public health officials, and policy makers.

What will a public-safety worker who completes the curriculum be able to do?

- Recognize the definitions of HIV, HBV and AIDS
- Identify how HIV and HBV are transmitted
- Recognize who is at risk of infection
- Identify personal behaviors and practices that protect people from risk of HIV and HBV infection
- Identify workplace situations in which people may encounter HIV and HBV
- Identify situations in which wearing masks, gloves, eyewear, and gowns is recommended
- Identify recommended protective equipment and devices and methods of disinfecting and sterilizing them
- State correct procedures for needle disposal; handwashing; handling specimens, spills, and soiled laundry; resuscitation; cleaning surfaces; conducting searches; and collecting evidence

- **Recognize local laws and department policies regarding testing, confidentiality, and reporting procedures**

Added benefits of learner involvement include reducing on-the-job stress related to HIV and HBV transmission and identifying personal values and opinions about AIDS and their effects on job performance.

How long will it take to complete the curriculum?

About four hours. However, length will vary according to the previous training and experience of the participants, and the number of case studies you choose to cover. Section 4, "Case Studies," includes a range of case studies.

Effective training is timely and frequent. Schedule regular, ongoing sessions to follow the initial course. You may incorporate these into existing department training schedules, structures, and programs. See Section 2, "Tips for Trainers," for suggestions on conducting initial and follow-up sessions.

How is the guide organized?

The guide is organized in eight sections.

Section 1, "About This Curriculum Guide," introduces the form and content of the curriculum guide.

Section 2, "Tips for Trainers," describes some ways to plan, deliver, and evaluate training.

Section 3, "Preventing Transmission of HIV and HBV for Public-Safety Workers and Emergency-Medical Workers," is a lecture outline that you may want to use in your training session. It covers basic information on the definition and transmission of HIV and HBV, precautionary measures and protective equipment, decontamination, and management of exposure.

Section 4, "Case Studies," includes realistic descriptions of incidents that might occur during the performance of duty. They provide opportunities for learners to practice making decisions about appropriate responses.

Section 5, "Resources," lists sources of information related to each public safety worker group, including print and audiovisual materials, organizations and clearinghouses.

Section 6, "Glossary," defines HIV- and HBV-related terms.

Section 7, "Guidelines for Prevention of Transmission of Hepatitis B Virus and Human Immunodeficiency Virus to Health-Care and Public-Safety Workers," provides the CDC guidelines.

Section 8 contains the overheads for the lecture outline.

How should you use this guide?

To increase your knowledge about the subject. Study the lecture outline in Section 3. Then use some of the resource materials listed in Section 5 to develop the fullest possible understanding of the subject.

To plan and present your training program. See Section 2, "Tips for Trainers," for some approaches, including a checklist and evaluation materials. Use the resource lists in Section 5 to order audiovisual aids and handout materials.

This guide is only a starting point. Use, modify, and customize the curriculum to accommodate local situations, resources, and needs. Supplement it with references to your state and local laws, guidelines, policies, and procedures. Adapt, sequence, and schedule training to fit your organization's special circumstances, issues, and problems. Try to get all points across in your own words and in the language of the learners.

The subject of this curriculum is dynamic; for example, although information about transmission of HIV and HBV has been well established; the numbers of infected people do change. Therefore, consider this curriculum as a general introduction to the subject. To update the curriculum with new information as it becomes available, consult the organizations and clearinghouses listed in Section 5, "Resources," as well as other sources.

Section 2: TIPS FOR TRAINERS

Schedule training to be timely and frequent

To address serious concerns and to clear up any misunderstandings about virus transmission and AIDS, training should begin as soon as possible and occur regularly. For new staff recruits, training should be a part of their orientation on or before the first day on the job. For all staff, provide frequent, periodic training to review the facts, practice performing special procedures, and introduce new information as it becomes available.

In follow-up sessions, you may ask learners to bring in their own examples of cases they would like to discuss, or you may choose to discuss an incident in your district.

Involve others in the training process

Seek the help of peer workers, public health officials, health and safety committees, union and management representatives, and others in planning the agenda, preparing materials, and teaching the curriculum. Their involvement will help make the curriculum appropriate and practical as well as accurate.

Peer worker participation, in particular, often lends credibility to the training. Their first-hand experience can ensure a strong link between the training session and the workplace.

You can use experienced workers and other specialists to give brief lectures, present case studies and conduct follow-up discussions, field question-and-answer sessions, demonstrate how to use protective equipment, and so on.

Prepare yourself

Be sure that you and your cooperating trainers know the subjects you present, and are sensitive to the issues that can be raised. Use Section 5 to acquire resource materials. Study them well, together with information that relates to your own local area.

Have discussions about the topic with some of your fellow workers or other people who are concerned about the topic. Those talks will bring out many of the questions and issues that you will encounter later in the training sessions.

Identify learning objectives

Base the training on the skills the learners must use on their jobs. Training should also address learners' concerns, perceptions, and knowledge gaps.

Clarify what learners will be able to do as a result of training so that you can explain what you will cover in the curriculum and what follow-up sessions will address. You might want to begin by reviewing the objectives in Section 1, "About This Curriculum Guide." Pick the most appropriate options that are listed under the section heading, "What will a public safety worker who completes the curriculum be able to do?"

Determine the curriculum

The curriculum you teach should be related specifically to workplace situations and concerns. You should supplement the basic information presented in Section 3, the lecture outline, of this guide with subjects of specific concern to the learners. For example, subjects relating to law enforcement officers include search and arrest procedures.

Throughout the presentation of material in the lecture, you, the trainer, will be asked to present information that pertains to your local jurisdiction. For example, you will need to explain standard operating procedures that apply to specific tasks in your jurisdiction and you may need to explain state or local laws (for example, laws that govern whether or not you can test a suspected carrier of HIV or HBV). You need to make sure you know these procedures and laws.

Create a good climate for learning

During training, the atmosphere should encourage openness. Success depends on people feeling free to actively participate, to comment, to question, and to give feedback. Actively listening is as important as actively participating.

Think about the training sessions you've enjoyed attending most. If there was a team of trainers, how did the members relate to one another? Was there a chance for you to ask questions? Were you talked at the whole time or did you get a chance to speak too?

Here are some ways to set a positive, supportive tone.

Introduce yourself and other trainers

Clarify your roles and responsibilities.

Describe the course

Explain what skills the participants will be able to use on the job as a result of successful learning. Describe the activities and time involved.

Encourage questions

Find out what learners want to know. Reserve time for a question-and-answer period. Acknowledge learners' comments, questions, and concerns, and provide immediate response or offer suggestions for appropriate sources of information.

Be alert to learner attitudes

Note body language and tone of voice. There may be apprehension, reserve, skepticism, even hostility about some of these topics. Try to acknowledge and deal with these attitudes without putting any one person on the spot.

Listen

Your training needs to be in touch with what the learners know and believe. Meaningful learning will occur when their feelings, concerns, and issues are addressed.

Work well with other trainers

Successful team training requires planning. Do some team building with the others who will participate before training begins. Don't wait until the training session to discover differences of opinion.

Before the training begins, take time to discuss your own and each other's attitudes about the subject and the issues that you will cover. Share expectations and personal limitations. Discuss how each person will handle sensitive issues. Explore the areas in which you feel confident and those in which you need support. Enlist the help of others who have strengths in your weak areas.

Rehearse what you are going to do. Each team member should have a clear place and purpose on the program. During the training session, avoid interrupting each other. The trainer who has the floor should not hesitate to call on another to help clarify or expand on points.

Evaluate learning

Pre- and Posttests

Several of the objectives in this training session will involve learning factual information (for example, how HIV is transmitted). That type of learning can be tested by giving a brief quiz at the end of the session. (Sample Form 1 is an example of a possible pre/posttest. It can be found at the end of this section.)

You might also give the same quiz as a pretest at the beginning of the session. Not only will that give you an idea of how much was actually learned during the session, but it will also set the participants' minds toward learning those answers they did not know.

On-the-job evaluations

The primary aim of the curriculum is to train learners to use infection control principles in the performance of their jobs so that they will minimize their risk of coming into contact with HIV and HBV.

You may want to request reports of supervisors indicating the carry over of training onto the job. The more precisely you define the outcomes to observe, the more you can structure the curriculum to produce those outcomes. Ask these kinds of questions: "Can the worker demonstrate how to remove contaminated protective gloves?" Or, "Can the worker name the protective equipment and devices that must be on an emergency transport vehicle?"

Ask learners to report--verbally in an interview or in writing on a form--critical incidents in which the curriculum affected their performance. This approach to evaluation reinforces learning by encouraging learners to apply what they have learned from the curriculum to their experiences on the job. Sample Form 3 provided at the end of this section may be used to gather information from learners who have participated in the curriculum.

Evaluate the training session

Both trainers and learners should be given the opportunity to comment on the success of the training session. Future sessions can be refined and strengthened by information gathered during past evaluations.

Evaluation by trainers

After the session, get the training team together for an evaluation session. Use all the information you have--your observations and reactions, learner reactions and recommendations, comments of observers or consultants, opinions of supervisors, and so on. Focus on what happened during the training and how the training compared with your original plan.

Ask yourselves these questions:

- Do the learning objectives still seem clear and realistic? Did you achieve them? What was especially helpful in achieving them and what hindered achievement?
- Did the course design work out the way you expected? Where did the training not follow the design? Why?
- Was there enough time to introduce the material, address learners' questions, and summarize the content?
- Would you change the course design? What would you include or omit?
- Was there resistance to any of the training topics? Were there points on which someone was reluctant to speak or even listen?
- Were you uncomfortable with any parts of the course, or in answering any of the learners' questions? If so, what can be done to overcome this discomfort?

Sample Form 2 provided at the end of this section may be useful when gathering information from other trainers.

Evaluation by learners

The use of training evaluation forms is common. Two sample forms are included at the end of this section. Sample Form 3 can be distributed to learners at the end of each training session. It will provide the learner's immediate reaction to the session. Sample Form 4 is an example of a long-term evaluation. It can be sent to learners after they return to their jobs, and will provide information about how learners are using the skills and knowledge acquired as a result of the curriculum. You may wish to adapt these forms for your own use.

Try to gather specific data that will be useful in planning future sessions. For example, you get more information out of answers to "What could be changed to make the training session better for you?" than "The training session was ()good ()fair ()poor."

As a general rule, try to get the participants to tell you: 1) what they found most positive about the session; 2) what did not work for them; and 3) what seemed to be missing.

Checklist for planning a training session

Place

- ___ Consider location, availability, and comfortable environments for small groups.
- ___ If advance notice is required to reserve space, with whom should you check? If the room must be unlocked, who has the key?
- ___ How will the room be set up? Chairs only, or chairs at tables? Chair toward front or in a circle? Who will set it up?
- ___ It may be helpful to draw a sketch indicating how you would like the room to be set up.

Materials and supplies

- ___ Prepare learner handouts such as local laws/guidelines/policies/procedures/reporting forms, brochures.
- ___ Gather name tags, markers, pens, pencils, and flip charts.
- ___ If refreshments will be offered, check supplies.
- ___ If you use audiovisual materials, have you or a consultant previewed them for suitability?
- ___ Pre- and posttests. Training evaluation forms.

Equipment

- ___ Reserve the slide projector, screen, audio- or videocassette player, and other equipment. Who will make sure they are working and set up? Will everyone be able to see the visuals?
- ___ If you are showing slides, are they arranged in order, right side up?
- ___ Will someone who knows how to run the equipment be there?

Other trainers

- ___ Arrange and coordinate the participation of all training staff and consultants.
- ___ Remind others of their participation in the session.
- ___ Clarify what they will do and how it fits into the overall training.
- ___ Provide everyone copies of all needed materials.

Posttest Questionnaire
(may be used as a pretest also)

1. The viruses that cause AIDS and hepatitis B can only live in blood or in certain body fluids.
 True False
2. The following behaviors or situations will put you at risk of being exposed to human immunodeficiency virus (HIV) which is the virus that causes AIDS (check as many as are true):
 Anal sex
 Sex with one partner who has been tested and shown HIV-negative
 Sharing drug needles
 Sharing living or working space and cooking utensils with an infected person.
3. More people have been infected with the virus that causes hepatitis B during the performance of work-related duties than with the virus that causes AIDS.
 True False
4. If you cannot determine what body fluids are present in emergency situation, you should wear gloves.
 True False
5. Protective equipment (gloves, eyewear, masks, and gowns) should be present on all emergency response vehicles.
 True False
6. There are documented cases of the virus that causes AIDS being transmitted to health care workers who gave mouth-to-mouth resuscitation.
 True False
7. In a dry environment, the virus that causes AIDS can only live:
 several hours
 several days
 2 weeks
8. Needles used at the emergency care site should be recapped before carrying them back to the emergency response vehicle to be put into a puncture-resistant container.
 True False
9. A bleach solution (1:100) is adequate to kill the viruses that cause AIDS and hepatitis B on equipment and environmental surfaces.
 True False
10. The most effective way for HIV or HBV to be transmitted in an occupational setting is through a needlestick.
 True False

(To the trainer: You may want to add questions that pertain to your standard operating procedures to this questionnaire.)

Answers:

- 1. True**
- 2. Anal sex, sharing drug needles**
- 3. True**
- 4. True**
- 5. True**
- 6. False**
- 7. Several hours**
- 8. False**
- 9. True**
- 10. True**

Sample Form 2

Trainer Evaluation of Session

Title of Session _____ Date _____

Department _____

Trainer _____

Other trainers and consultants (if any) _____

1. Did all learners achieve the instructional objectives?
2. Which objectives were many learners unable to achieve?

3. (a) Which sections of the course did learners enjoy most? Why?

(b) Which sections of the course did learners enjoy least? Why?

(c) Which sections of the course were most successful at making a difficult task easy to learn? (This would be shown by observation of learners' grasp of knowledge during the case studies and by their comments on the usefulness of these sections.)

4. (a) With which sections of the curriculum did learners have the most trouble?

(b) Why were these sections difficult (e.g., were they unclear, too long, unnecessary, etc.)?

5. What improvement could be made to solve or minimize those problems?

6. How could this course be made more cost-effective?

7. What follow-up support is needed?

Sample Form 3

Learner Evaluation of Session

Date: _____ Your name (optional): _____

Instructions: Please complete this form and return it to the trainer after the session. Use the back of this page if you need more space for any item. Thank you for helping improve the curriculum.

- 1. What is the single most important information, skill, or procedure that you learned in the session?**

- 2. Did you feel comfortable asking questions? If not, why not?**

- 3. What could be changed to make the curriculum better for you?**

- 4. What special issues, concerns, or questions would you like to have raised?**

- 5. Do you have any comments/suggestions/questions/etc. that you would like to raise? Please write them in the space below.**

Sample Form 4

Learner Evaluation of Session Over Time

To the Learner:

On _____ you took part in a training curriculum. We want to find out whether that session was helpful. Please complete the sentences below and return the form within a week. In some cases, you might just write, I don't know, or, This question doesn't apply to me. Your feedback will help make future sessions better. Thank you.

1. What was the single most important lesson you learned in the training course?
2. What do you do differently after having attended the training course?
3. What situations still make you uncomfortable when performing duties that have the potential for HIV or HBV transmission?
4. If you could change one thing about the curriculum, what would it be?
5. Have you done anything since the course to find out more about HIV and HBV or about anything else discussed in the curriculum?

Name (optional): _____

Date: _____

