

**REPORT OF THE  
SECRETARY OF PUBLIC SAFETY, THE  
SECRETARY OF HEALTH AND HUMAN RESOURCES,  
AND THE TEAM STUDYING**

**Hepatitis B Immunization  
Requirements for Selected  
Public Health, Public  
Safety and Emergency  
Services Personnel**

**TO THE GOVERNOR AND  
THE GENERAL ASSEMBLY OF VIRGINIA**



**HOUSE DOCUMENT NO. 37**

**COMMONWEALTH OF VIRGINIA  
RICHMOND  
1991**

## I. PREFACE

House Joint Resolution No. 195, adopted by the 1990 Session of the General Assembly, requested the Secretary of Public Safety and the Secretary of Health and Human Resources to study hepatitis B immunization requirements for selected public health, public safety, and emergency services personnel. The assignment was coordinated by the Virginia Department of Health, Division of Emergency Medical Services, and the Department of Criminal Justice Services.

Lead staff for the study were Susan D. McHenry, Director of the Division of Emergency Medical Services, and Ernest H. O'Boyle, Criminal Justice Analyst from the Department of Criminal Justice Services. Study Team members included the following:

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### III. EXECUTIVE SUMMARY

Hepatitis B is a viral infection. One of the prime modes for acquisition of the disease is exposure to blood contaminated with hepatitis B. Therefore, emergency response personnel (those involved in emergency medical services, fire service or law enforcement) who are constantly at risk for exposure to blood are at risk for the disease.

A vaccine for the prevention of hepatitis B was licensed in 1982. It is an excellent vaccine and experience over the past eight years has clearly demonstrated its safety. Nevertheless, for various reasons there has been a lack of eagerness among emergency response personnel to take advantage of the vaccine. Among the reasons for this are the relatively high cost of the vaccine and unfamiliarity with the disease. While most persons who get hepatitis B recover completely, about 6% become chronic carriers, i.e., they "carry" hepatitis B virus particles in their blood indefinitely. The carrier state can lead to chronic active hepatitis and hepatic cancer.

It is clear from the foregoing that emergency response personnel are unwittingly risking their health, and in a few instances even their lives. It is therefore essential that hepatitis B vaccine be offered to these dedicated individuals who unselfishly serve the public.

Hepatitis B is just one of the bloodborne diseases that emergency response personnel are at risk of acquiring. Therefore, this issue must be approached from a broader standpoint of infection control in general. Education is the most powerful resource we have to inform emergency response personnel about infectious diseases and their personal protection. As a result of this study, the Division of Emergency Medical Services (EMS) has compiled and will distribute to all emergency response agencies a "Communicable Disease Primer" to educate and to be used as a resource guide. The Division of EMS has also scheduled a broadcast on infection control through the Virginia Emergency Medical Services Satellite (EMSAT) program. This broadcast will be viewed in May of 1991 by numerous emergency response agencies across the state as part of their continuing education.

The next logical step after education is prevention. Survey results show that 47% of the emergency response agencies (of those responding) in Virginia have not been vaccinated against hepatitis B. The major reason cited for this is the high cost of the three shot series of vaccinations required for full protection. Costs range from \$120 to \$200 per person. For most volunteer agencies in particular, this amount is not feasible without some kind of assistance.

## **RECOMMENDATIONS**

The following are the Study Team's recommendations for educating, training and protecting public health and emergency response personnel:

### **Recommendation 1**

The Secretaries of Health and Human Resources and Public Safety will jointly appoint an Interagency Coordinating Committee on Infection Control for Emergency Response Agencies, hereafter referred to as the Interagency Coordinating Committee, with state and local representation. The purposes of the committee will be to assist with and monitor the progress on the following recommendations, to coordinate multi-disciplinary training on infection control, and to address other infection control issues within the public safety community.

### **Recommendation 2**

The Virginia Department of Health, in coordination with other appropriate state agencies, will notify all emergency response agencies in the Commonwealth that emergency response personnel should be offered immunization against vaccine-preventable diseases according to the Guidelines of the Immunization Practices Advisory Committee of the U.S. Public Health Services and that all such personnel should be educated in and use universal precautions as specified by the Centers for Disease Control (CDC).

### **Recommendation 3**

Although Virginia Occupational Safety and Health (VOSH) Regulations do not specifically require volunteers to be covered under the immunization mandates, the Virginia Department of Health will advise local units of government and applicable emergency response agencies of the critical need to offer hepatitis B vaccine to all volunteer emergency response personnel because of their high risk for infection.

### **Recommendation 4**

The Virginia Department of Health, in cooperation with other appropriate state agencies, will make available to all emergency response agencies in the Commonwealth copies of the infection control guidelines and protocols.

### Recommendation 5

The Interagency Coordinating Committee will explore funding (public or private) for and assist in the implementation, support and dissemination of a model infection control program for emergency response agencies, including at a minimum the following elements:

- a. personnel protective equipment
- b. post-exposure management
- c. reporting and tracking of occupational exposures
- d. proper equipment and facility design
- e. other requirements of applicable Federal or State regulations

### Recommendation 6

The applicable regulations of the various state agencies will be amended, where necessary, to address the need for infection control information to be included in all applicable training courses for emergency response personnel (e.g., Emergency Medical Technician Training, Paramedic Training, Basic Law Enforcement Training) at the time of course development and/or revision.

### Recommendation 7

The Interagency Coordinating Committee will explore possible funding sources for the creation of a special matching grant program to assist localities and emergency response agencies in providing hepatitis B immunization for at risk personnel, with special emphasis given to personnel in the volunteer sector, who may not otherwise have the resources to pay the full cost of the vaccine. The Committee will also explore funding from public or private sources to assure availability of on-going training to heighten the awareness of public health and emergency response personnel regarding infection control. The Committee will report related findings and recommendations to the Secretaries of Health and Human Resources and Public Safety.

### Recommendation 8

A. The Secretary of Administration and local governments, where applicable, should determine the cost of adding coverage of hepatitis B immunization to basic employee benefits under health insurance programs for employees at risk of infection due to the nature of their work and should consider including this benefit in contracts with health insurance providers.

B. The Virginia Department of Health, in coordination with the Secretary of Administration and the Secretary of Health and Human Resources, will educate HMOs and other health insurance providers as to the degree of risk of hepatitis B infection for certain public health and emergency response personnel and the cost effectiveness of preventive immunization.

Recommendation 9

The Secretaries of Health and Human Resources and Public Safety will assure that information contained in this Report is shared with appropriate state agencies and organizations, primarily statewide organizations, through formal presentations by members of the Study Team or the Interagency Coordinating Committee.

#### IV. INTRODUCTION

Hepatitis B (HBV), previously known as serum hepatitis, is caused by a virus. The virus is transmitted by certain bodily fluids that enter through breaks in the skin or mucous membranes. Modes of transmission are very similar to those associated with the HIV infection (AIDS), with the most common exposure for health and emergency response personnel being through exposure to contaminated blood. Under similar circumstances, emergency response personnel are much more likely to contract hepatitis B than HIV.

Public health and emergency response personnel (those persons involved in emergency medical services, fire services or law enforcement) are at increased risk of contracting communicable diseases. Emergency response personnel are at greater risk because of the prehospital setting in which they function and the need to deliver care rapidly. Each year 300,000 people contract HBV. Of those, 20,000 are health care workers with 250 of these cases resulting in death. Another 6-10% of those infected will become carriers of the disease with potential to infect others. With immunization against HBV, these numbers can be reduced significantly.

The hepatitis B vaccine is a safe and effective cure for reducing the number of HBV cases contracted by public health and emergency response personnel. The first vaccine was licensed in the United States in 1982 and in 1987 a second vaccine produced in yeast by recombinant technology was also licensed. The current vaccine is 95% effective for seven to nine years, according to a recent report in American Medical News. The problem with this "miracle cure" for protection against hepatitis B is its cost. Current costs range from \$120 to \$200 for the three shot series necessary for full protection. This puts a financial burden on employers and is almost out of the question for small volunteer emergency response agencies.

This study's findings are based on reviews of current State and Federal laws and regulations related to hepatitis B immunization as well as current related literature. Results from surveys of Virginia emergency response agencies concerning levels of immunization activity and compliance with applicable laws and regulations were also used in the development of recommendations and conclusions. Recommendations were then made by Study Team members to best represent the interests of public health and emergency service personnel, while also considering impact on employers.



## V. CURRENT RULES AND REGULATIONS

At the present time, Virginia Occupational Safety and Health (VOSH) requires employers of public health, public safety, and emergency response personnel to comply with either the federal OSHA standards or the "General Duty" clause (Section 40.1-51.1 of the Code of Virginia) which mandates employment and a place of employment which are free from recognizable hazards. In May, 1989, the Department of Labor (Federal OSHA) released document 29 CFR Part 1910: "Occupational Exposure to Bloodborne Pathogens; Proposed Rule and Notice of Hearing". In this lengthy document, the suggestion was made that employers be required to pay for immunization of employees and observe other precautionary measures. This document has not been approved and thus the financial burden of immunization still has not been decided. Many employers, following the "General Duty" clause, already provide for the vaccine.

Volunteer emergency response agencies are not covered under VOSH regulations. They are referred to the Centers for Disease Control (CDC) "Guidelines for Health Care Workers", which are virtually the same as OSHA's proposed precautionary measures. Both OSHA and the CDC strongly recommend that any public health, public safety, or emergency services provider that is in direct contact with bodily fluids on the average of one time per month be offered the vaccination. In contrast with OSHA, the CDC does not directly address who should bear the financial burden.

## VI. SURVEY RESULTS

In order to assess the existing level of immunization activity and compliance with current guidelines, surveys were distributed to large samples of career fire and rescue agencies, volunteer rescue squads and career law enforcement agencies in Virginia. Each organization received a cover letter explaining the purpose of the study and a short survey form. A total of 205 surveys were distributed to agencies across the state and 109 (53%) were returned. An analysis of the returned surveys produced the following major findings:

- \* 41% of volunteer rescue squads have Infection Control Programs that provide for immunization.
- \* 95% of municipal emergency medical services agencies, most of which are located within fire departments, have Infection Control Programs that provide for Hepatitis B immunization.

- \* 29% of law enforcement agencies across the state have Infection Control Programs that provide for immunization.
- \* 25% of immunizations in above groups are paid for by the agencies themselves.
- \* 66% of immunizations are paid for by cities or counties.
- \* 60% of immunization programs are administered through local health departments and this method of administration seems to be the least expensive.
- \* 47% of all responding emergency response agencies have not provided immunization for their personnel.
- \* 43% of agencies surveyed listed lack of financial support and lack of education as reasons why they did not have a program in place.
- \* 85% of the agencies surveyed requested additional information and stated that there were concerns about their current program or lack of a program.

The majority of agencies that have immunization programs in effect bear the cost themselves or have support from local governments. The health department appears to be the most frequently used source for administration of the vaccine. Financial burdens were the most frequently cited responses for lack of a program.

An analysis was done based on the districts established by the Virginia Association of Volunteer Rescue Squads, and results showed that areas within and surrounding Richmond, Fairfax and Virginia Beach are already well established with programs. Many rural rescue squads and law enforcement agencies do not have programs in place and many stated that because of a lack of sufficient education related to hepatitis B, immunization was often not perceived as a priority.

## VII. FINDINGS AND RECOMMENDATIONS

The HJR 195 Study Team concluded that a hepatitis B immunization program should be a high priority for all at-risk public health and emergency response personnel. In order to attain the necessary participation by emergency response agencies it is imperative that they be educated about hepatitis B, as well as other communicable diseases, and made aware that there is a safe, effective vaccine available for their protection. Methods for assisting employers and volunteer agencies in implementing vaccination programs is an important step toward reducing the numbers of hepatitis B cases in the state.

The following are the Study Team's findings and recommendations for educating, training, and protecting public health and emergency response personnel:

### Recommendation 1:

The Secretaries of Health and Human Resources and Public Safety will jointly appoint an Interagency Coordinating Committee on Infection Control for Emergency Response Agencies, hereafter referred to as the Interagency Coordinating Committee, with state and local representation. The purposes of the committee will be to assist with and monitor the progress on the following recommendations, to coordinate multi-disciplinary training on infection control, and to address other infection control issues within the public safety community.

### Discussion

Many important issues and ideas have emerged in the course of the HJR 195 Study Team's work. Since a number of the issues and answers transcend specific agency interests and responsibilities, and since a number of the recommendations will require on-going coordination among a number of public safety disciplines and agencies, it was determined that there is a need for an interagency coordinating committee. This committee would oversee activities and monitor progress in the areas recommended. Membership would include similar representation to that of the HJR 195 Study Team.

### Recommendation 2:

The Virginia Department of Health, in coordination with other appropriate state agencies, will notify all emergency response agencies in the Commonwealth that emergency response personnel should be offered immunization against vaccine-preventable diseases according to the Guidelines of the Immunization Practices Advisory

) Committee of the U.S. Public Health Services and that all such personnel should be educated in and use universal precautions as specified by the Centers for Disease Control (CDC).

#### Discussion

The Study Team has concluded that a major issue is the lack of education and knowledge concerning hepatitis B and the availability of a safe and effective vaccine. Since the recognition of HIV infection (AIDS), hepatitis and many other communicable diseases have had decreased attention and have been somewhat overshadowed by the concerns related to the AIDS crisis. Emergency response agencies need to be educated on hepatitis B and other communicable diseases and about available vaccines and other protective measures to prevent further transmission.

#### Recommendation 3:

Although Virginia Occupational Safety and Health (VOSH) Regulations do not specifically require volunteers to be covered under the immunization mandates, the Virginia Department of Health will advise local units of government and applicable emergency response agencies of the critical need to offer hepatitis B vaccine to all volunteer emergency response personnel because of their high risk for infection.

#### Discussion

VOSH does not recognize volunteer emergency response agencies under its "General Duty" clause (Section 40.1-51.1 of the Code of Virginia). Also, there is currently no enforcement policy pending for volunteers, however, there is a task force that was established to investigate this matter. Currently VOSH refers volunteer emergency response personnel to the Centers for Disease Control (CDC) document "Guidelines for Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health Care and Public Safety Workers" (February, 1989), which strongly recommends vaccination for all health care and public safety workers.

#### Recommendation 4:

The Virginia Department of Health, in cooperation with other appropriate state agencies, will make available to all emergency response agencies in the Commonwealth copies of the infection control guidelines and protocols.

#### Discussion

In response to this need, the Virginia Department of Health, Division of Emergency Medical Services, with the assistance of the

Study Team, has developed the "Communicable Disease Primer for Virginia Public Safety and Prehospital Providers". This document will be printed and distributed to all emergency response agencies and local health departments to be used as a guide and to educate all agencies on a variety of communicable diseases. The Primer also includes infection control practices and references that should be beneficial.

The Division of Emergency Medical Services (EMS), with the assistance of the members of the HJR 195 Study Team, will produce and broadcast a two hour educational program on Infection Control for Public Safety Personnel on the EMS Satellite (EMSAT) network on May 22, 1991. This broadcast, which is one of a series of monthly continuing education offerings, will be viewed by several hundred emergency response personnel across the state and is used for continuing education credits by many EMS personnel.

#### Recommendation 5:

The Interagency Coordinating Committee will explore funding (public or private) for and assist in the implementation, support, and dissemination of a model infection control program for emergency response agencies, including at a minimum the following elements:

- a. personnel protective equipment
- b. post-exposure management
- c. reporting and tracking of occupational exposures
- d. proper equipment and facility design
- e. other requirements of applicable Federal or State regulations

#### Discussion

Each emergency response agency should have a comprehensive infection control program in place. The Centers for Disease Control and Federal OSHA list the above elements as the minimum that should be included in such an infection control program. There are currently some national efforts underway, within national professional organizations, to develop such a model program.

#### Recommendation 6:

The applicable regulations of various state agencies will be amended, where necessary, to address the need for infection control information to be included in all applicable training courses for emergency response personnel (e.g., Emergency Medical Technician or Paramedic Training, or Basic Law Enforcement Training) at the time of course development and/or revision.

) Discussion

Basic information on various types of communicable diseases and personal protective measures should be made available to all those currently in and those entering the emergency response field of work. This could best be accomplished through incorporation of this information in the regular courses taught to prepare individuals for their particular line of work. This is also being considered at the national level as it pertains to national standard curricula for various emergency response personnel.

Recommendation 7:

The Interagency Coordinating Committee will explore possible funding sources for the creation of a special matching grant program to assist localities and emergency response agencies in providing hepatitis B immunization for at-risk personnel, with special emphasis given to personnel in the volunteer sector, who may not otherwise have the resources to pay the full cost of the vaccine. The Committee will also explore funding from public or private sources to assure the availability of on-going training to heighten the awareness of public health and emergency response personnel regarding infection control. The Committee will report related findings and recommendations to the Secretaries of Health and Human Resources and Public Safety.

Discussion

The Study Team identified early on that lack of adequate funding is a major obstacle to assuring hepatitis B immunization for all at-risk public health and emergency response personnel across the state. The availability of a matching grant fund of \$100,000/year for several years would provide critical assistance where it is needed to accomplish the immunizations. The funds would be administered as matching funds to applicant agencies. Agencies would be required to document need and provide assurance that individuals who are vaccinated would comply with the three shot regimen that is essential to provide effective immunization. One possible source of matching funds for an immunization program for eligible emergency medical services organizations would be the "Special Project" category of the Virginia Rescue Squad Assistance Fund.

Other funds recommended would allow for on-going training and the publishing of updates to educate personnel on hepatitis B and other communicable diseases. It is estimated that \$25,00-40,000/year would be needed for this effort.

Recommendation 8:

A. The Secretary of Administration and local governments, where applicable, should determine the cost of adding coverage of hepatitis B immunization to basic employee benefits under health insurance programs for employees at risk of infection due to the nature of their work and should consider including this benefit in contracts with health insurance providers.

B. The Virginia Department of Health, in coordination with the Secretary of Administration and the Secretary of Health and Human Resources, will educate HMOs and other health insurance providers as to the degree of risk of infection for certain public health and emergency response personnel and the cost-effectiveness of preventive immunization.

Discussion

Insurance companies should be reminded that hepatitis B, a serious communicable disease that can in some cases be fatal, is preventable. It is more cost-effective to immunize than to cover the cost of hospitalization and treatment of infected individuals and perhaps their contacts.

Recommendation 9:

The Secretaries of Health and Human Resources and Public Safety will assure that information contained in this Report is shared with appropriate agencies and organizations, primarily statewide organizations, through formal presentations by members of the Study Team or the Interagency Coordinating Committee.

Discussion

The Report contains important information and recommendations which should be shared with appropriate organizations, such as the Virginia Association of Counties, Virginia Municipal League, Virginia Association of Volunteer Rescue Squads, and the State Fire Chiefs', Sheriffs', and Chiefs of Police Associations. The significance of the Report and the related recommendations will have greater impact if presented personally by a member of the Study Team who can respond to questions and who has appropriate visual aids to highlight key points. The importance of infection control must be emphasized and it is believed that this approach will be more effective than simply distributing a report.

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**APPENDIX**



# 1990 SESSION

LD4163478

## HOUSE JOINT RESOLUTION NO. 195

Offered January 23, 1990

*Requesting the Secretary of Transportation and Public Safety and the Secretary of Health and Human Resources to study hepatitis B immunization requirements for selected public health, public safety, and emergency services personnel.*

Patrons—Harris, R.E., Parrish, Rollison and Brickley; Senator: Colgan

Referred to the Committee on Health, Welfare and Institutions

WHEREAS, hepatitis B is a disease that damages the liver, with symptoms ranging from mild to severe or fatal; and

WHEREAS, of those individuals injected with the hepatitis B virus, twenty-five percent develop active hepatitis while six percent become carriers of this virus; and

WHEREAS, hepatitis B is a highly infectious disease, and may be transmitted by needlestick injury, through mucous membranes, broken or nonintact skin, and bodily fluids; and

WHEREAS, law-enforcement, correctional facility, and emergency services personnel are at special risk because they may be exposed to a variety of assaultive, disruptive behavior or situations through which they may be exposed to blood or other bodily fluids; and

WHEREAS, in response to this concern, new federal regulations are being developed to require certain employers to provide hepatitis B vaccinations to all employees meeting certain criteria; and

WHEREAS, the cost of providing hepatitis B vaccinations, administered in a three-shot series, may place a severe burden on certain employers; and

WHEREAS, it is necessary to develop prudent and effective ways to protect our law-enforcement and emergency services personnel as well as all citizens of the Commonwealth against the risk of contracting this serious and sometimes fatal disease; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Secretary of Transportation and Public Safety and the Secretary of Health and Human Resources study hepatitis B immunization requirements regarding selected public health, public safety, and emergency services personnel. The study shall include consideration of, among other things, federal and state laws and regulations, and methods of assisting employers in complying with any immunization requirements. All agencies of the Commonwealth shall provide assistance upon request as the Secretary of Transportation and Public Safety and the Secretary of Health and Human Resources may deem appropriate.

The Secretary of Transportation and Public Safety and the Secretary of Health and Human Resources shall complete their work in time to submit their findings and recommendations to the Governor and the 1991 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for processing legislative documents.