

COMMUNICABLE DISEASES: LEGAL AND ETHICAL ISSUES FACING THE HEALTH CARE PROVIDER

Executive Leadership

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ABSTRACT

Today's health care environment is an unmarked mine field. Personnel are exposed, on a daily basis, to any number of diseases. Due to the increased risk of contracting communicable diseases, infection control within the pre-hospital setting has progressed to unprecedented levels. The problem that inspired this paper was that Range Complex Fire Department personnel have little or no knowledge of the legal or ethical guidelines that must be followed if exposed to a communicable disease. The purpose of this research was to identify communicable diseases that pose a significant medical risk to health care providers and evaluate departmental awareness of current legal and ethical issues. Additionally, this paper formulates recommendations that address the issues of non-discrimination and reasonable accommodation as applied within the workplace.

This study uses the descriptive and evaluative methods of research and seeks to answer the following questions:

1. What communicable diseases pose a significant risk to health care providers, if any?
2. What legal rights must be addressed when a health care provider is exposed to a communicable disease?
3. What ethical principles must be observed when a health care provider is exposed to a communicable disease?

A literature review and survey was conducted to identify and evaluate communicable diseases that pose a risk to the health care provider. Additionally, this

review pointed out the legal and ethical issues that must be addressed when a health care provider is exposed to a communicable disease.

The literature review indicated there are two major types of communicable diseases—bloodborne and airborne. It is a generally accepted medical opinion that human immunodeficiency virus (HIV), tuberculosis, and hepatitis virus A, B, and C pose the greatest risk to Southern Nevada health care providers. Research results indicated that case law is dictating the legal rights of both the health care provider and the patient. Furthermore, current legal decisions have afforded additional protection for the health care provider under the umbrella of the Americans with Disabilities Act. The research also pointed out that health care providers who contract an occupational exposure to a communicable disease must adhere to the concept of ethical obligation.

It was recommended that the Range Complex Fire Department initiate a comprehensive training program outlining the communicable disease problem and provide department personnel with legal and ethical information. Furthermore, recommendations must be formulated to augment the existing master infectious disease control plan and must include extensive explanations of the American with Disabilities Act, the four-factor analysis, significant risk, informed consent, privacy rights, and the principle of beneficence.

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INTRODUCTION

In years past, the communicable disease issue was often annotated as a short notation on the back page of a monthly safety committee report. Health care providers, working in the pre-hospital environment, did not dwell on the infection control problem. Medical protocol dictated that protecting the patient from additional injury and/or infection was paramount. Rarely did the provider worry about his/her own health. This is no longer the case.

Today's health care environment is an unmarked mine field. Personnel are exposed, on a daily basis, to any number of diseases. Due to increased risk of contracting a communicable disease, infection control within the pre-hospital setting has progressed to unprecedented levels. In an effort to augment medical protocols, legal and ethical guidelines have been developed to ensure personal safety of the patient as well as the provider.

The Range Complex Fire Department (RCFD) faces occupational exposure to infectious disease on a daily basis. The problem that inspired this paper was that department personnel have little or no knowledge of the legal or ethical guidelines that must be followed if exposed to a communicable disease.

The purpose of this research was to identify communicable diseases that pose a significant medical risk to health care providers and evaluate departmental awareness of current legal and ethical issues. Additionally, this paper formulates recommendations that

address the issues of non-discrimination and reasonable accommodation as applied within the workplace.

Descriptive and evaluative methods of research were used for this paper. The research consisted of a literature review, a survey of health care providers, and interviews with medical professionals. The survey was used to assess the awareness of department health care providers with respect to occupational communicable diseases. Finally, the interviews were conducted to evaluate communicable diseases that pose a significant risk to Southern Nevada health care providers. The following research questions were used in the preparation of this paper:

1. What communicable diseases pose a significant risk to health care providers, if any?
2. What legal rights must be addressed when a health care provider is exposed to a communicable disease?
3. What ethical principles must be observed when a health care provider is exposed to a communicable disease?

BACKGROUND AND SIGNIFICANCE

Over the past couple of years the Range Complex Fire Department has found itself in a tentative position when attempting to explain the issue of communicable diseases. Although the organization has a formidable infectious disease control plan, it stops short of addressing current legal and ethical guidelines in the event of an occupational exposure by department personnel. Recognizing there are significant increased health risks

associated with communicable diseases, the RCFD is seeking to educate its workforce about potential infectious disease exposure.

The department recently questioned the lack of a complete communicable disease program that incorporated legal and ethical rights of the health care provider. Historically, occupational statistics suggested that health care providers, mainly emergency responders, paramedics, and emergency medical technicians, are particularly at risk for occupational exposure to communicable diseases. Creasy and Tarro (1995) eloquently described the infection control problem as it applied to a health care provider. They wrote:

When providers don't know the risk they face, several problems occur. Facing an unknown risk creates fear. When fear replaces knowledge, we often develop a distorted view of what must be done to protect ourselves. Some personnel have refused to enter an AIDS patient's room even though there's no risk of acquiring the disease simply by being in the room. The same personnel may not hesitate to crawl on bloody broken glass to rescue an injured patient, while doing so would place them at significant risk. Training is the key to recognizing risk.

Other bloodborne pathogens like hepatitis B and C also present significant risk. Hundreds of health care providers die from hepatitis every year. Many of the deaths are needless. A vaccine is available to prevent hepatitis B, yet many providers choose not to use it. Hepatitis C, for which there is no vaccine,

requires more emphasis on prevention, yet many personnel are unaware of how it is transmitted. Airborne diseases like tuberculosis present a different challenges. Simply breathing the same air as someone with active TB can place providers at risk .for providers, the most important part of infection control is understanding and recognizing risk (p. 9).

In an effort to preclude unnecessary discrimination against an infected health care provider, implementation of legal and ethical guidelines by the RCFD should eliminate confusion and undue hardship to the employee as well as potential legal litigation to the organization.

The RCFD is a federal fire department located in Nevada. The initial mission of the RCFD was to provide aircraft firefighting and structural fire protection. Over the years the department has evolved to provide many additional operational services such as hazardous materials response and mitigation, medical response and transport, confined space rescue, and high angle/industrial rescue. Additionally, a fire prevention bureau has been added and provides for plans review, fire inspections, extinguisher maintenance and education, public fire education, and arson investigation services.

It is understood that information such as population served, when the fire department was organized and other information about the organization is generally discussed in this section. Due to the Department of Defense bidding process, this information cannot be discussed in this paper.

The research problem is directly related to chapter 1 of the *Executive Leadership* student manual. This course was presented as part of the Executive Fire Officer Program at the National Fire Academy. Chapter 1 covered a broad overview of the leadership program. During a discussion with fellow classmates, the conversation drifted to the topic of anticipating future problems within the organization and committing sufficient resources to deal with them. This paper is an attempt to analyze and evaluate a potential problem within the RCFD that may impact its workforce.

LITERATURE REVIEW

Introduction

The literature review is sub-divided into three main parts, one for each of the issues covered by the research questions. The purpose of the literature review is to determine what has been written about the issues.

Communicable Diseases

In order to identify communicable diseases that pose a significant risk to health care providers, it is necessary to identify the mode of transmission of the various types of infectious agents. Katherine West (1991), an infection-control consultant, pointed out that there are two major types of communicable disease—bloodborne and airborne. Although bloodborne pathogens are numerous, it is a generally accepted medical opinion that human immunodeficiency virus (HIV) and hepatitis virus A, B, and C pose the greatest risk to providers. Dr. Rose Lee Bell (personal communication, 14 September, 1998) agreed with this assessment. Currently holding a doctorate in epidemiology and working for the

Clark County Health District (Nevada), Dr. Bell reviewed the latest communicable disease statistics generated from the Southern Nevada region and supported the contention that HIV and hepatitis A,B, and C are extremely risky to the health care provider.

Darius and Holdsworth (1994) noted that, according to the Occupational Safety and Health Administration (OSHA), the main airborne disease causing concern is tuberculosis (TB). Dr. Bell, looking once again at Southern Nevada statistics, agreed with this assessment and commented that “although TB is making a comeback, Southern Nevada has made in-roads into the problem through public education and continued inoculations” (personal communication, 14 September, 1998). Understanding the distinctive characteristics of bloodborne and airborne diseases is critical to this research and will be discussed in the following section.

Bloodborne Pathogens

HIV, known in its advanced stages as Acquired Immune Deficiency Syndrome (AIDS), is a chronic infection of the body caused by the human immunodeficiency virus. As per guidelines established by the Boulder County (Colorado) Health Department (1995), HIV exposures generally occurred through needlesticks or cuts contaminated with an infected patient’s blood and contact usually occurs through the eye, nose, mouth, or skin.

Carol Thompson (1987) emphasized that although HIV is spread through blood, there is little or no evidence that the virus can be transferred by “sweat, tears, saliva, or casual contact. AIDS is not spread by the airborne route” (p. 44). Furthermore, according to the Centers for Disease Control (CDC) (1996), most exposures “do not result in

infection. The risk of infection varies with the type of exposure” and factors such as the amount of blood, virus level, and treatment of the exposure must be considered to determine potential risk of infection (p. 1). Schulman (1988) concurred with the CDC analysis of an exposure to AIDS and added that “never has another household member become infected, save where there was blood-to-blood contact. Hospital workers caring for HIV-infected individuals have been similarly studied. Never have they become infected, save where there was blood-to-blood contact” (p. 5). Nevertheless, the AIDS virus is deadly and must be treated accordingly.

Hepatitis A, B, and C

Brandon and Baskerville (1996) described hepatitis as “inflammation of the liver” (p. 45). They further stated that this disease, in its simplest form, is called hepatitis “A” and, as it progressively worsens, is labeled hepatitis “B” or “C”.

Hepatitis A is the mildest form of this virus and is transmitted by food or water that has been contaminated with fecal matter. Hooten (1997) emphasized that this particular virus lives for only a few hours and can be eliminated through proper grooming standards and, if within two weeks of exposure, a serum can be taken to prevent infection. Once again, the Boulder County Health Department (1995) re-iterated that prevention of hepatitis A is as simple as washing your hands and ensuring that infected individuals do not prepare food.

According to Brandon and Baskerville (1996) hepatitis B virus is “spread by contact with blood or virtually any body fluid” (p. 45). In addition, they added that high-risk groups

include drug users, homosexual men, heterosexual partners, health care workers, and individuals who are frequently exposed to various bodily fluids on a continuous basis. Prevention of hepatitis B can be controlled by utilizing universal precautions, not sharing personal toiletry articles, practicing good hygiene, and abstaining from sexual activity. Hooten (1997) subsequently emphasized that “about 90 percent of adults who have HBV (hepatitis B virus) recover and have lifelong immunity; those who do not recover risk chronic hepatitis, hepatitis D, cancer, liver damage, and death” (p. 51). HBV is a serious disease. Preventing long term contamination from the hepatitis B virus is as simple as taking a three injection series of inoculations over a six month timeframe.

Hepatitis C is a liver disease and is the most serious form of hepatitis.

Hooten (1997) warned that this particular disease is “transmitted by blood, sexual contact, and from mother to infant” (p.51). Until recently, hepatitis C was known as nonA-nonB hepatitis but was renamed in the early 1990’s. Symptoms can appear anywhere from two weeks to six months after exposure with an average of 6-9 weeks. Hepatitis C is deadly and there is no available vaccine to fight this infection. Morse and Fujimoto (1990) emphasized the importance of seeking immediate medical attention if exposure occurs. They further noted that hepatitis C is not spread through casual contact but the sharing of toothbrushes, washcloths, and razors must be discouraged.

Available research indicated that exposure to hepatitis C increased the risk of exposure to the hepatitis B virus. It was recommended by the Boulder County Health Department (1995) that “you consult with your physician and consider an HIV antibody blood test” if exposed to hepatitis C (p. 2).

Airborne Pathogen

National Fire Protection Association (NFPA) Standard guideline 1581, **Fire Department Infection Control Program, 1995**, Section 1-3, defined an airborne pathogen as “pathogenic microorganisms that are present in airborne secretions and can cause diseases in humans. These pathogens shall include, but shall not be limited to, chicken pox, measles, influenza, meningitis, mononucleosis, mumps, tuberculosis, and whooping cough (pertussis).” Referencing previous discussions on the communicable disease issue, literature review determined that tuberculosis is the most threatening airborne disease in the United States in the 1990’s.

Tuberculosis

Tuberculosis, also known as TB, is a dangerous airborne disease. Thought to have once been eradicated and isolated to third world countries, TB is once again gaining prominence as a deadly communicable disease.

OSHA, the National Institute for Occupational Health and Safety (NIOSH), and the Centers for Disease Control are “working to define a nationally set of guidelines, protective measures and enforcement measures to protect workers from TB and control its spread” (Darius and Holdsworth, 1994, p. 25). Although education, increased infection control, and vigilance (on the part of health care providers) have somewhat stalled the spread of TB, this disease is resilient and looking for a host in individuals with depressed immune systems.

TB is spread within the airborne environment. Hooten (1997) wrote that tuberculosis bacteria is spread by very small airborne droplet nuclei from the respiratory tract of infected persons. She furthered stated that “someone who is actively sick spreads the disease by coughing, sneezing, talking, or spitting” (p. 53).

Peter Garnham (1994) pointed out that health care providers are especially susceptible to TB infection. Echoing this point, Hooten (1997) related that “only 5-10 percent of those infected ever get sick, but TB is the leading cause of death for those who are HIV-positive” (p. 53). Garnham (1994) supported Hooten by declaring if TB bacteria were that easy to contract then more people would be infected. However, the current drug-resistant strain of TB has resulted in increased deaths among United States health care providers.

According to Darius and Holdsworth (1994) “research has shown a high risk of TB transmission in health care facilities. Workers such as medical staff, orderlies, housekeeping, emergency care providers, and others are at risk” (p. 27). The most effective method to avoid being infected by TB is to wear a mask when in close contact with a suspected patient (Hooten, 1997). Additionally, placing a mask on the patient is a prudent course of action.

TB can be treated if given prompt diagnosis and treatment. Brandon and Baskerville (1996) pointed out that tuberculosis is a bacterial infection that forms scar tissue or lesions on the walls of the lungs. Left untreated, TB is highly contagious and can be deadly.

Medical screening and follow-up to detect TB infection is a critical component of providing a safe environment for health care providers. Darius and Holdsworth (1994) described the process of conducting the PPD (purified protein derivative) skin test in an effort to diagnose potential infection. They stressed the PPD test should only be carried out by designated, trained personnel.

Legal Issues

Susan Smith (1993), describing the legal rights of a health care provider, stated that “public perception of risk is much greater than the actual risk of exposure from infected health care workers” (p. 35). According to Smith, many individuals would like to see HIV-infected physicians banned from practicing medicine. Surveys determined that most people think they should be informed if their physicians are HIV-infected. Balancing the legal rights of an infected health care provider, while maintaining proper medical protocols and observing federal regulations, will be a daunting task.

Cornell University (1998), in an attempt to shed some light on the legal/ethical issues of communicable disease, explained that health care providers are citizens of the United States and, as such, are entitled to constitutional privacy and employment rights. Any provider who contracts a communicable disease is protected by local, state, and/or federal laws. Additionally, the provider is also covered as a handicapped citizen as determined by recent case law.

Rehabilitation Act of 1973 (ACT)

A prelude to the Americans with Disabilities Act (ADA), the Rehabilitation Act of 1973 set the stage prohibiting discrimination “toward handicapped people by recipients of federal funds” (Head, Bradley-Springer, and Sklar, 1993, p. 96). It was the first civil rights legislation to combat discrimination and required affirmative action when dealing with individuals with disabilities. Although this 1973 act could not have anticipated problems within the emergency medical field in the 1990’s, it has served to protect health care providers who have been deemed “handicapped”.

In a landmark 1987 case, ***Arline v. School Board of Nassau County*** (1987), the Supreme Court ruled that a teacher with chronic tuberculosis was determined to be handicapped. The Nassau school district attempted to remove the teacher from the classroom environment because she had TB. The court ruled that removing the teacher from her everyday job was illegal and anyone found to be handicapped had to be assessed for capability to perform the job. Furthermore, the court determined that reasonable accommodation to perform a job must be attempted by an employer. Head et al. (1993) subsequently stated “if the employee exposes others to a significant health risk and if that risk cannot be limited through reasonable accommodation by the employer, the employee may not be otherwise qualified for the position” (p. 96). In other words, the phrases “significant risk” and “reasonable accommodation” are the litmus test for future employment.

The Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA), signed into law on 26 July, 1990, was wide-ranging legislation intending to make American society more accessible to people with disabilities. This Act included protecting the employee in private as well as public agencies. The United States Department of Justice (1998) defined the Act as follows:

The Americans with Disabilities Act gives federal civil rights protection to individuals with disabilities similar to those provided to individuals on the basis of race, color, sex, national origin, age, and religion. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, state and local government services, and telecommunications (p.1).

Simply put, the United States court system is holding firm in its effort to enforce constitutional privacy, employment rights, and reaffirming the intent of the Act. What's more, the Justice Department has ruled that if the cost of the accommodation would impose an undue hardship on the employer, the employer should determine if financial or technical assistance is available. In the federal court case of ***Leckelt v Board of Comm'ns of Hosp. Dist. No.1, 909 F. 2d 820*** (1990), the employee (Leckelt) failed to provide the employer with critical personal information. The resulting termination of Leckelt was upheld. The court reasoned that Leckelt did not give the hospital the opportunity to provide a reasonable accommodation; therefore, they were under no legal or moral

obligation to provide future employment. The employer, in an effort to meet ADA requirements, is not required to create a new job for the person with the disability.

Significant Risk and Four Factor Analysis

In the ***Arline*** case, the bench held that reasonable accommodation is often linked to significant risk and should be determined by “the existence of medical or other objective evidence” (Stefan, 1998, p. 1). Stefan further remarked that significant risk should also be based on how the disease is transmitted, the duration and severity of the risk involved, and the probability that the disease can be transmitted or cause varying degrees of harm (also known as the four factor analysis).

Lee (1998) elaborated on the significant risk issue. Also linking the significant risk issue with four factor analysis, she wrote that how the disease is transmitted, how long the carrier is infectious, what the potential harm is to third parties, and the probability of transmission are all critical components of determining risk.

The main focus of the ADA required employers to make reasonable accommodation, without undue hardship, for a qualified individual with a known physical or mental disability (Lee, 1998). Health care providers, infected with a communicable disease, have been viewed as handicapped by the courts and must be protected from discrimination within the workplace. Case law and legislative intent of the ADA support the reasonable accommodation issue and may include job restructuring or reassignment to a vacant position.

Determining reasonable accommodation may require close scrutiny of the job description and performance of a job analysis. In the health care field, pivotal issues are whether the infected individual can perform the job with minimal changes to the work environment and whether the infection causes significant risk to others. Cornell University (1998), in an informational brochure prepared for the National Institute on Disability and Rehabilitation Research, wrote:

Reasonable accommodation is any modification or adjustment to a job, an employment practice, or the work environment that makes it possible for a qualified individual with a disability to participate in and enjoy an equal employment opportunity. The employers obligation to provide a reasonable accommodation applies to all aspects of employment; the duty is ongoing and may arise any time a persons disability or job changes. An employer is not required to provide an accommodation that will impose an undue hardship on the operation of the employer's business. An employment opportunity cannot be denied to a qualified applicant or employee solely because of the need to provide reasonable accommodation" (p. 2).

Informed Consent and Privacy Rights

The issue of confidentiality and the right to know has posed a number of legal and ethical issues. Some individuals might assert that ethics "is about exhortation and aspirational standards, whereas responding to actual behavior and trying to change it

(through enforcement of standards or otherwise) is the realm of law” (Wolf, 1994, p. 105). Nevertheless, the medical community must respect the concept of ethical obligation and has an intrinsic duty to inform the patient, under most circumstances, when potential communicable disease exposure is possible.

Many informed consent guidelines are determined on a state-by-state basis—not by the federal government. Most informed consent discussions involve the physician/patient and emergency responder/victim relationship. Available literature concentrated on the interaction between the patient and the doctor. According to Dr. Bell (personal communication, 14 September, 1998), the driving force behind informed consent is dictated by whether the health care provider’s own health is material to the patient’s treatment. In other words, if a provider is HIV positive, does he/she have an obligation to inform a patient of this fact? Prevailing research indicated the overriding concern would be the patient’s immediate health concern—not the medical condition of the provider (Jane Shunney, personal communication, 14 September, 1998).

Daniels (1992) argued that, in general, patients required informed consent only for risks a reasonable person would want to know about. Since there are many risks associated with providing emergency care, there are no compelling ethical guidelines that push this issue. Under ordinary situations, there are too many risks to discuss and “there is no reason to believe a reasonable person would care about them” (n.p.).

In the landmark health care case, *Canterbury v. Spence*, the court “defined a risk as material when a reasonable person, in what the HCW (health care worker) knows or should know to be the patients position, would likely attach significance to the risk in

deciding whether or not to forego the proposed treatment” (Head et al., 1993, p.99). Once again, the severity of the injury dictated whether or not a health care provider has a legal duty to disclose any personal communicable disease information to the patient.

It might be tempting at this time to address the legal merits of privacy rights, informed consent, and patient care. However, the discussion section of this paper will encompass trade-offs between theoretical solutions and practical application.

Ethical Issues

Ethical principles still guide the health care provider when providing medical services to a patient. Diane Balay (1996) quoted Dr. Robert L. Fine as saying “medical ethics are what we believe is good and bad, right and wrong about medicine” (p. 1). While case law continued to assess moral and legal obligation of the health care provider, the principle of right and wrong, beneficence, and nonmaleficence have stood the test of time.

Principle of Beneficence

Head et al. (1993) defined the principle of beneficence as “requiring the health care worker to help, do good, or otherwise improve the health status of the patient” (p.98). The probability of transmitting a communicable disease from a provider to a patient, while utilizing universal precautions, is very unlikely. This probability of potential disease transmission must be weighed against the opportunity of providing needed care.

Dramer (1998) listed four obligations of beneficence; 1) one should not inflict anything bad on the patient, 2) one should prevent anything harmful to the patient, 3) one should remove potential harm and, 4) one should promote good on behalf of the

patient. Health care providers, who follow these four obligations, will rarely violate ethical guidelines during the treatment of a patient.

In an article submitted by the Council on Ethical and Judicial Affairs (1994), “the degree of benefit refers to the difference in outcome when comparing treatment and no treatment” (p. 1056). It was suggested that an infected health care provider weigh the potential benefit of care versus non-performance and available alternatives.

Principle of Nonmaleficence

The American College of Ethics for Emergency Physicians (1996-97) policy statement noted that **not** harming a patient is the key to maintaining the health care provider’s integrity and the patient’s trust. Once again, in a situation in which the health care provider is a carrier of a communicable disease, the provider must assess the benefit of rendering immediate life-threatening treatment versus the cost of potentially infecting the patient with a communicable disease.

Smith (1993) disclosed that health care providers have a number of choices that can be made during an emergency situation and choosing to forego life sustaining protocol—in favor of delayed or less riskier intervention—is an option that must be considered.

Rothman (1995) took the issue of medical decision-making a step further. He suggested the infected health care provider consider not practicing within the emergency medical arena. Head et al. (1993) mentioned the “responsibility to avoid setting up a predictable dilemma” but stopped short of supporting Rothman’s position (p. 99). The

issue of changing a job for another, less riskier occupation, would likely “result in personal, financial, and emotional losses, and might deprive society of services that are in short supply” (p. 99). Additionally, Head et al. (1993) went on to add that every American is entitled to “enjoy life, liberty, and the pursuit of happiness” (p. 99). This constitutional right cannot be ignored. Asking a health care provider to abandon a good job, based solely on being the carrier of a communicable disease, is in violation of the ADA and targets individuals within the health care profession. Health care providers have ethical responsibilities to respect patient’s rights but, under most circumstances, have no moral or legal obligation to subjugate their livelihood when other factors are involved; i.e., universal precautions and the nature of emergency.

The life, liberty, and pursuit of happiness concept directly conflicts with prevailing practical applications within the communicable disease field. In the article ***Issues in Health Care-HIV Disclosure*** (Editor, 1998), the main argument for disclosing that a health care provider is HIV positive revolves around the fact that “no protection is enough” and “in this age when we’re constantly learning new facts about HIV transmission, we cannot afford to take any risks” (p.1). On the other hand, the primary argument against disclosure “revolves around that health care provider’s do not pose a risk to patients in the first place” (p. 1). To further augment this point, the article plainly pointed out that health care workers wear gloves and many do not perform invasive procedures. Additionally, the same argument can be made for hiding the “HIV status of non-health care providers. Most people with AIDS pose no risk to their co-workers” (p. 2). Jane Shunney (personal communication, 14 September, 1998) followed this line of reasoning by stating that she

was not aware of any local case in which any communicable disease, let alone HIV, had been passed from a health care provider to a patient.

Literature Review Summary

The purpose of this research was to identify communicable diseases that pose a significant medical risk to health care providers and evaluate departmental awareness of current ethical and legal issues. The literature review was critical in identifying risky communicable diseases and; similarly, suggested numerous legal and ethical guidelines a health care provider must follow. Moreover, legal and ethical guidelines established by recent case law dictated the need for complete understanding of legislative intent. The information found within the research materials will be useful in formulating the recommendations section of this paper.

PROCEDURES

Literature Research Methodology

The research began by locating books, professional journals, and Executive Fire Officer Program (EFOP) research papers that related to the topic of communicable disease. An initial computer search was conducted in June 1998 at the Learning Research Center located at the National Emergency Training Center in Emmitsburg, Maryland. Additional research was conducted in August 1998 at the University of Nevada, Las Vegas.

Survey Methodology

Population

A survey was given to members of the Range Complex Fire Department. Prior to handing out the initial survey, a pilot survey was conducted on two firefighters and they were asked to review it for mistakes and readability. The firefighters indicated that the survey was free from obvious mistakes and easy to understand.

Instrumentation

The purpose of this survey was to evaluate departmental awareness of current communicable diseases as well as assess their knowledge of pertinent legal and ethical issues. Furthermore, the survey was constructed to include a number of questions that had no value to the research being conducted.

- ◆ Question #1 had no impact on the survey.

- ◆ Question #2 asked respondents if they understood the medical risks if exposed to certain communicable diseases.
- ◆ Question #3 had no impact on the survey.
- ◆ Question #4 asked department personnel if they understood legal issues associated with the communicable disease problem. The Ryan White Act had no impact on the survey.
- ◆ Question #5 had no impact on the survey.
- ◆ Question #6 asked department personnel if they understood ethical issues and the impact on a health care provider.

Interview Methodology

Two interviews were conducted in September, 1998. The purpose of the interviews were to establish basic guidelines on the topic of communicable diseases. Both individuals were asked to comment on the communicable disease issue and discuss relevant information pertaining to potential medical risks of exposure. Additionally, each was asked general informational questions regarding their respective area of expertise.

The two individuals interviewed were: Dr. Rose Lee Bell, Epidemiologist; and Jane M. Shunney, Registered Nurse. Both of these medical professionals are employed as specialists for the Clark County Health District in Southern Nevada.

Definition of Acronyms

ADA: Americans with Disabilities Act

AIDS: Acquired Immune Deficiency

CDC: Centers for Disease Control

DoD: Department of Defense

HCP: Health Care Provider

HCW: Health Care Worker

HIV: Human Immunodeficiency Virus

JAMA: Journal of the American Medical Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Agency

PPD: Purified Protein Derivative

TB: Tuberculosis

Assumptions and Limitations

It is assumed that department personnel responded to the survey honestly and with sufficient professional background to answer the questions knowledgeably.

The survey provided representation from across the ranks of the department. No statistical analysis was made to determine the margin of error in the survey results.

RESULTS

Answers to Research Questions

Research Question #1: What communicable diseases pose a significant risk to health care providers, if any?

Literature review indicated there are two major types of communicable disease—bloodborne and airborne. Generally accepted medical opinion noted that human immunodeficiency virus (HIV), hepatitis A, B, C and tuberculosis pose the greatest risk to health care providers.

Dr. Bell (personal communication, 14 September, 1998), using statistics generated from the Southern Nevada region, supported data gathered from literature review. She agreed with OSHA and NIOSH findings that HIV, hepatitis A,B,C and tuberculosis are extremely risky to the provider.

Survey question #2 indicated that ninety-eight percent (46 of 47) of the respondents understood the risks associated with tuberculosis. Eighty-seven percent (41 of 47) replied they understood the medical risks associated with hepatitis A and C. Ninety-six percent (45 of 47) comprehended the risks of hepatitis B while fully one-hundred percent (47 of 47) replied they understood the risks associated with AIDS.

Research Question #2: What legal rights must be addressed when a health care provider is exposed to a communicable disease?

Results presented in this section reflected current federal regulations and legal

opinion relating to the communicable disease issue. Research revealed that case law is dictating the legal rights of a health care provider. Furthermore, current legal decisions have afforded additional protection for the health care provider under the umbrella of the Americans with Disabilities Act.

The purpose of survey question #4 was to assess departmental awareness of current legal regulations and guidelines. Literature review revealed that a comprehensive communicable disease program should include recommendations on the legal rights of a health care provider who has been exposed to a serious communicable disease.

Survey question #4 was posed to determine how well department personnel understood a number of critical issues and their impact on a health care provider. Only forty-five percent (21 of 47) of department personnel indicated they had knowledge of the Rehabilitation Act of 1973. Fully seventy-seven percent (36 of 47) were familiar with the American with Disabilities Act while the definition of “significant risk” had a less than stellar response. Only fifty-three percent (25 of 47) of the respondents indicated they understood this important concept. Eighty-three percent (39 of 47) of surveyed individuals indicated they were familiar with the privacy right issue and, surprisingly, over ninety-six percent (45 of 47) responded that they were comfortable with the concept of informed consent. In addition, only seventeen percent (8 of 47) of respondents indicated they had any knowledge of the “four factor analysis”.

Research Question #3: What ethical principles must be observed when a health care provider is exposed to a communicable disease?

Research revealed that ethical guidelines are, at best, highly subjective and open to interpretation. All health care providers are bound to their patients by ethical principles of one form or another. Health care providers who contract an occupational exposure to a communicable disease must adhere to the concept of ethical obligation. The problem with adhering to this concept is that it is loosely defined and rarely discussed within the workplace.

Survey question #6 asked health care providers if they understood the impact of ethical issues while providing emergency care. It is obvious from the results of this question that department personnel do not understand a number of ethical principles and the influence these concepts have on their profession. Less than thirty percent (14 of 47) of department personnel understood the principles of nonmaleficence and beneficence. The remaining principle of “life, liberty, and pursuit of happiness” revealed that only thirty-eight percent (18 of 47) of the respondents replied they were comfortable with this issue. Furthermore, of the sixty-two percent (29 of 47) who said they did not understand the concept, comments ranged from “everyone could use more information” to “what does it matter”.

Interview Results

Literature research identified many of the serious communicable diseases facing health care providers. In an effort to localize the problem, interviews were conducted with Dr. Rose Lee Bell and Registered Nurse Jane M. Shunney—both employed by the Clark County Health District in Southern Nevada. Dr. Bell has a Doctorate in Epidemiology and

Ms. Shunney runs the emergency medical program in Southern Nevada. Results from the interviews were used in the literature review and discussion sections of this project.

Dr. Bell was asked to comment on the communicable disease issue within the Southern Nevada area. Using figures generated from an up-to-date medical survey, she quickly identified communicable diseases that posed the greatest risk to the health care provider. She identified HIV, hepatitis A, B, C and tuberculosis as diseases that pose a significant risk to a health care provider.

A hypothetical question was posed to Jane Shunney concerning a potential response to a vehicle rollover involving an injured patient. She was asked if an emergency care provider had any legal or ethical responsibility to inform a patient that he/she was HIV positive. Her reply was a resounding “No”—as long as the responder used standard universal precautions. Furthermore, as an infected HCP, one must weigh the alternatives of delaying needed care versus administering emergency treatment. A case could be made for delay of treatment in a non-invasive, non-critical patient; but, Ms Shunney was adamant that any delay in giving emergency treatment must be carefully considered.

When asked whether a HCP should divulge important, and personal, health data to a patient, Dr. Bell responded that one might have to take a “wait and see” position. Literature review supported Dr. Bell and indicated each emergency situation needed to be judged on its own merit. Ms. Shunney, commenting on this problem, said it would be a judgment call by the HCP and the decision would hinge on whether the injuries, of a patient, were life-threatening.

DISCUSSION

Identifying communicable diseases that pose a significant risk to health care providers was accomplished through literature review. Moreover, the data was supported by interviews with local medical professionals. Research indicated there is no doubt within the local medical community that tuberculosis, hepatitis A, B, C, and HIV are the primary health care concerns of a Southern Nevada health care provider.

Ninety-eight percent (46 of 47) of the survey respondents indicated they understood the risks associated with tuberculosis. The only negative response to this question replied that “I am aware of the TB issue but had read that it was now, once again, a problem in the United States.”

Upwards of eighty-seven percent (41 of 47) of respondents replied they understood the risks associated with hepatitis A, B, C, and HIV. Coincidentally, shortly after collating the survey data, department personnel were given a training handout with a list of various communicable diseases, prevention measures, and symptoms. Observations made by the author, while passively listening to a series of verbal exchanges between shift personnel, indicated they did not *truly understand* the differences between the diseases and; furthermore, may not have realized how important the distinctions were (the research survey used for this paper had been given to department personnel weeks prior to this incident). Dr. Bell (personal interview, 14 September, 1998) lamented that knowing how a disease is transmitted and comprehending the distinctive characteristics are vital to prevention. Also, not completely grasping all the details of a communicable disease might

lead a health care provider into professional complacency and, ultimately, potential vulnerability.

Research suggested that although the potential for transmission of diseases has always existed, the HIV/AIDS epidemic is high on the health care provider's "avoid-at-all-cost" list. In fact, recent history has demonstrated that public perception of HIV issues has risen to new levels. As Head et al. (1993) succinctly put it, "numerous organizations and government bodies, as well as the general public, have become concerned with the issue of HIV transmission in the health care setting" (p. 95). In my opinion, health care providers must be aware of testing parameters and ethical obligations. The health care provider must take responsibility for HIV prevention/notification or the legal system will do it for us. My position on this issue is similar to that of Head et al. (1993), American College of Ethics for Emergency Physicians (1996-97), and Stefan (1998).

Survey results revealed that department personnel were, for the majority, only slightly aware of critical legal issues and their impact on the health care provider. Fully forty-five percent (26 of 47) of department personnel indicated they did not understand the Rehabilitation Act of 1973. As a forerunner to the American with Disabilities Act, the Rehabilitation Act laid the groundwork prohibiting discrimination toward handicapped people by recipients of federal funds. The Act generated numerous legal guidelines and defined the act of discrimination against a handicapped individual. The 1987 Supreme court case, *Arline v School Board of Nassau County*, "dealt with the question of whether a chronic contagious disease constitutes a handicap under the act" (Head et al., 1993, p. 96). The Supreme court took the position that an elementary school teacher, who

had tuberculosis, was found to be handicapped. Additionally, they further noted that the Nassau school district was directed to keep this teacher in her classroom environment because of reasonable accommodation. This particular case law is important to the health care worker in that it provided legislative relief in the event of discrimination.

Hypothetically, let's say a health care provider has contracted a communicable disease and fellow co-workers believe the provider is contagious and a carrier. They refuse to work with the employee. Under the ***Arline*** ruling, the employer must conduct a medical evidence review of the situation and determine the appropriate level of health risk. If the health risk can be limited through prudent and reasonable accommodation, then the HCP must be allowed to perform his/her job. Whether co-workers want to work with an infected HCP is not a concern to the court—it is up to the employer to guarantee a safe work environment.

The survey results pointed out that seventy-seven percent (36 of 47) of the respondents were knowledgeable about the American with Disabilities Act (ADA). According to research, many individuals believe the ADA is nothing more than legislation ensuring wide walkways for a wheelchair-bound individual. This is not an accurate picture. The ADA gives federal civil rights protection to individuals with disabilities and guarantees reasonable accommodation without undue hardship. Once again, referring to the literature review by Stefan (1998), the ***Arline*** case held that contagious diseases “were covered under the Rehabilitation Act of 1973” (p. 10). This ruling laid the initial groundwork for the ADA by greatly expanding the historical definition of “disabled” and allowed significant latitude in its application.

Recent court cases have highlighted the importance of the ADA and its potential impact on the health care provider. In an article written by the United States Department of Justice (1998) an individual “is considered to have a “disability” if he or she has a physical or mental impairment that substantially limits one or more major life activities, has a record of such an impairment, or is regarded as having such an impairment” (p. 1). What implication does this hold for a health care provider? Simply put, if a HCP has contracted a communicable disease, then this individual must be protected against discrimination related to the disability. For example:

A fire chief may believe that an HIV-infected firefighter poses a risk to others when performing mouth-to-mouth resuscitation. However, current medical evidence indicates that HIV cannot be transmitted by the exchange of saliva. Thus, there is little or no likelihood that an HIV-infected firefighter would pose a risk to others (United States Department of Justice, 1998, p. 4).

This type of reasonable accommodation, that properly balances the interests of society against the needs of a disabled individual, is expected—and required—by the legal community.

On another note, the ADA has not entirely eliminated common sense from the reasonable accommodation issue. The Supreme court, in *Bragdon v Abbott*, ruled that HIV was a disability and used existing medical literature in making this decision (Steffan, 1998). Yet, in an effort to clarify this ruling, they stated that if reasonable accommodation

posed an undue hardship on the organization, then it need not be implemented. For example, if a HIV-infected health care provider happens to be a firefighter who operates an emergency vehicle—and this individual experiences dizzy spells and bouts of nausea—it would not be in violation of the ADA to prohibit the individual from driving the vehicle. Public safety is still an overriding factor within the American with Disabilities Act.

Elaborating a bit more on the common sense approach to the reasonable accommodation issue, Schulman (1988) wrote that protection of the handicapped assumes that the public, in general, wishes to treat people fair and equitable. Yet, he stated that the treatment must not present an unreasonable risk to others. He cited the following situation:

A wheelchair-bound person who can type and answer phones cannot be fired as a secretary. The employer or service provider cannot refuse to reasonably accommodate the wheelchair in the facility. Yet a wheelchair would bar one from a right to a spot in a chorus line and an airborne illness might bar one from the right to be present around others (p. 7).

Taking this particular theoretical discussion to another, more personal level, let's look at a hypothetical situation within the Range Complex Fire Department. The RCFD operates under Department of Defense rules and regulations. Additionally, the department must follow all contractual requirements as outlined within the 'Statement of Work' (SOW). The SOW dictates how business is to be conducted within the department. A unique feature of this particular contract is that **all** department personnel must be certified combat

firefighters and able to perform fireground operations (this includes the manager, inspectors, training officers, and detached personnel). According to literature review, if a firefighter contracted a communicable disease and experienced, say, dementia, the individual could be in violation of established safety parameters and removed from combat firefighter status. At this point, research further indicated that the department must attempt to make a reasonable accommodation for this individual. This is where the situation gets a bit trickier. The problem is that there is no provision within the RCFD contract for any position other than that of a combat firefighter. Subsequent literature revealed that the ADA “does not require employers to make accommodations that pose an “undue hardship” (defined as significantly difficult or expensive), the experiences of employers around the nation demonstrates that many accommodations cost nothing, and few pose the “significant expense” that many employers fear” (Lee, 1998, p. 1). In this example; however, the Range Contract Fire Department contract is job specific. Any individual who is not a **fully qualified combat firefighter** is not employable and the contractor does not get paid, by the government, for services rendered. Interestingly enough, virtually every fire department in the country has provisions for extended limited duty and will make accommodations for disabled individuals.

So how does the RCFD reasonably accommodate this disabled individual while maintaining profitability? This may be one for the court system or, at the very least, an arbitrator. Practical application of the ADA is not as straightforward as research indicated. The ADA has evolved into a huge public law that deserves extensive, and thorough, investigation.

Analyzing the issue of significant risk is relatively straight-forward once the four-factor analysis has been established. Survey results indicated that only fifty-three percent (25 of 47) of the respondents were familiar with the significant risk issue and fully eighty-three percent (39 of 47) had limited knowledge of the four-factor analysis. Research pointed out that the court system, when developing decisions based on the transmission of a communicable disease, used “ “significant risk” as a standard of employability for persons with disabilities” (Head et al., 1993, p. 96). Significant risk, when used in conjunction with the four-factor analysis, will aid the department in determining whether a person with an infectious disease poses a significant risk to others.

Examining a practical application of this concept may help in understanding the importance of this issue. For example, to assess whether a hepatitis C health care provider poses significant risk, the four-factor analysis can be used (nature, duration, severity, and probability of transmission).

The nature of risk of infection is defined by the hepatitis transmission mode. Hooten (1997) maintained that hepatitis C is transmitted by blood and is a deadly disease. Although a HCP may perform invasive procedures, use of universal precautions reduce the risk of hepatitis C from one person to another.

Another factor to consider is the length of time that the carrier is able to transmit the disease. Available literature indicated that there is no vaccine currently available and that the hepatitis C virus has no identifiable source of infection for many people. Hepatitis C is a life-long disease.

The severity of risk is determined by the potential level of harm to third parties. About eighty percent (80%) of the people with hepatitis C become carriers and since it is the ninth leading cause of death in the country, the potential severity of risk is high (Shunney, personal interview, 14 September, 1998).

And finally, the probability of transmission from an infected hepatitis C health care provider to a patient is very, very low (Boulder County Health Department, 1995). Research literature further indicated there is little evidence supporting a significant risk of hepatitis C transmission during invasive procedures—provided all safety parameters are observed.

Now that the four-factor analysis is complete, a comparative risk analysis can help to decide if an infected hepatitis C health care provider is putting a patient at risk for exposure. First of all, correct application of the four-factor analysis is critical. Since it was determined that the probability of transmission was very low, there does not seem to be any need to look at its severity or duration. If the probability of transmission is so small that transmission of the disease is not likely, discussion of this issue would seem to be unnecessary. The courts; nonetheless, have taken a different approach to this evaluation process.

The legal system has historically concentrated on a single aspect of the four-factor analysis and disregarded additional factors that might have changed the outcome of the ruling. “For instance, if the severity of risk is negligible, nature, duration, and probability of transmission becomes moot points” (Head et al., 1993, p. 98). However, for the purposes of this paper, significant risk revealed that a hepatitis C infected health care provider does

not pose a risk to a patient—especially when utilizing universal precautions. Determining significant risk, using the four-factor analysis, will have a big impact on services to be provided by an infected HCP and the type/amount of information given to a patient.

Eighty-three percent (39 of 47) of the survey respondents indicated they were familiar with the privacy right issue and almost one hundred percent (45 of 47) responded they understood the concept of informed consent. As Dr. Bell (personal interview, 14 September, 1998) clearly pointed out in her interview, there are two schools of thought on the privacy right and informed consent issues. She was adamant that this particular issue was highly volatile and “opinions can swing like a pendulum”—depending upon current case law and the local medical climate. Indeed, many health care providers have their own opinion on this matter and will conduct business accordingly.

Research disclosed that ethical issues were not understood by the majority of survey respondents. Less than thirty percent (14 of 47) of department personnel grasped the principles of nonmaleficence and beneficence. Furthermore, the concept of life, liberty, and pursuit of happiness revealed that only thirty-eight percent (18 of 47) of the respondents were comfortable with this issue. Results of the literature review indicated that a HCP is “bound to their patients by the ethical principles of nonmaleficence and beneficence” (Head et al., 1993, p. 98). Working the issue a bit further, a HCP has an ethical responsibility to provide information to their patient; however, the amount of disclosed data is dependent upon each unique situation.

Current ethical guidelines suggested that health care providers voluntarily test themselves for communicable diseases and, if a carrier, should inform their employer.

Although, as per literature research, a HCP has a duty to improve the health status of a victim, at what point does volunteering personal health data begin to compromise his/her job security (Council on Ethical and Judicial Affairs, American Medical Association, 1994)? And when does the infected HCP begin to lose his/her ability to support a family? These are theoretical questions that impact the work environment on a daily basis. In the federal court case of ***Leckelt v Board of Comm'ns of Hosp. Dist. No.1, 909 F. 2d 820 (1990)***, the following facts were given:

The plaintiff was a licensed practical nurse and worked for the defendant hospital. As a nurse, his job included changing patients' dressings, giving medication both orally and by injection, starting intravenous lines, performing catheterizations, and administering enemas. The hospital staff knew that the plaintiff was a homosexual and that his roommate of eight years, who had been a patient at the hospital, had recently died from an AIDS-related condition. The hospital also knew that the plaintiff was a Hepatitis B virus carrier and that he had syphilis. Furthermore, the hospital had diagnosed the plaintiff with general lymphadenopathy, a condition indicative of a recent HIV infection.

The hospital infection control practitioner, Gustavia Grove, met with Leckelt. She requested that he have an HIV antibody test. Leckelt told her that he had already been tested

and that when he picked up the results he would bring them to her.

On the day that the results were due, Leckelt informed Grove that he was not going to divulge this information to the hospital. Grove told Leckelt that he would not be allowed to return to work until he gave her the results of his test. Several weeks later, he still would not comply and Leckelt was fired (p.1).

Leckelt brought suit in federal court.

The importance of this case, to a HCP, cannot be overstated. The federal court ruled that Leckelt was fired for failing to comply with hospital policies—not because he was HIV positive. Additionally, because Leckelt failed to report his HIV status to the hospital, he might have put fellow co-workers and patients at risk. Furthermore, because he performed invasive procedures, Leckelt was obligated to inform the hospital of his infection. And finally, Leckelt was well versed with the hospital's testing policy. His employer had a vested interest in its workforce and a right to his test results. Leckelt, according to the court, did not have his constitutional rights violated. He knew that the hospital had rules and chose to ignore them.

All health care providers have a responsibility to decrease risk to their patients. They do not; however, have to do so at the expense of their personal rights. "A just society would not require a HIV-infected health care worker to abandon medical practice to eliminate a minimal risk to patients without balancing the costs of the financial support for

such workers and their families” (Head et al., 1993, p. 99). Every health care provider must be allowed to earn a living and it is up to the employer to ensure that an infected provider is not deprived of this basic right. As Head et al. (1993) clearly pointed out in their article, a health care provider has the right to earn a living and this must not be compromised by an employers inaccurate or incomplete knowledge of contagious diseases.

RECOMMENDATIONS

The Range Complex Fire Department faces occupational exposure to infectious diseases on a daily basis. The problem that inspired this paper was that department personnel have little or no knowledge of the legal or ethical guidelines that must be followed if exposed to a communicable disease.

The purpose of this research was to identify communicable diseases that pose a significant medical risk to health care providers and evaluate departmental awareness of current legal and ethical issues. Additionally, this paper formulates recommendations that address the issues of non-discrimination and reasonable accommodation as applied within the practical reality of the workplace. Based on the results of this project, the following recommendations are aimed specifically at the Range Complex Fire Department.

- ◆ The RCFD must initiate a comprehensive training program outlining the communicable disease problem. Furthermore, this program must include data from the CDC, NIOSH, and NFPA 1581, ***Fire Department Infection Control Program, 1995***, Section 1-3. The training must incorporate specific communicable needs applicable to the local/state/federal jurisdictions of the Range Complex Fire Department. Training is the key to recognizing/reducing risk.

- ◆ The RCFD must provide department personnel with legal and ethical training. This program should be broad-based in nature and result in the health care provider making an informed, professional decision when confronted with the communicable disease issue.

◆ And finally, general legal and ethical guidelines must be incorporated into the master infectious disease control plan. Recommendations to augment existing guidelines must include extensive explanations of the American with Disabilities Act, the four-factor analysis, significant risk, informed consent, privacy rights, and the principle of beneficence.

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APPENDIX A

Communicable Disease Survey

Infectious diseases have always been a significant hazard facing health care providers. Concerns, within the health profession, are being voiced about AIDS, Hepatitis A, B, & C, and Tuberculosis. This survey, which examines the communicable disease issue, is being conducted as part of the Executive Fire Officer Program within the National Fire Academy. I would appreciate your cooperation in the completion of this questionnaire and guarantee complete confidentiality. If you have any questions, feel free to call Mark Ayers @ Ext. 5-3221. Thanks for taking the time to complete this survey.

1. Check one of the following:

My primary occupation is (check only one):

Clinical Environment
 Paramedic
 Firefighter
 Security Officer

2. As a health care provider¹, do you understand the medical risks if you are exposed to the following communicable diseases?

Tuberculosis (TB)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Hepatitis A	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Hepatitis B	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Hepatitis C	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Acquired Immune Deficiency Syndrome (AIDS)	<input type="checkbox"/> Yes	<input type="checkbox"/> No

3. Do you know if your organization has an infectious disease control plan?

Yes No

(Continue survey on back side)

¹ A health care provider is defined as a physician, nurse, paramedic, firefighter, or police officer.

4. Do you understand the following legal issues/concepts and their impact on a health care provider?

- Rehabilitation Act of 1973 Yes No
- The American with Disabilities Act Yes No
- Ryan White Public Law Act Yes No
- Definition of "Significant Risk" Yes No
- "Four Factor Analysis" Yes No
- Privacy Right Issue Yes No
- Informed Consent Yes No

5. Do you understand the medical protocols which must be followed in the event you become exposed to a life-threatening communicable disease?

Yes No

6. Are you aware of the following ethical issues and their impact on the health care provider?

- Principle of nonmaleficence Yes No
- Principle of beneficence Yes No
- "Life, Liberty and Pursuit of Happiness" Doctrine Yes No

Please add any additional comments
