

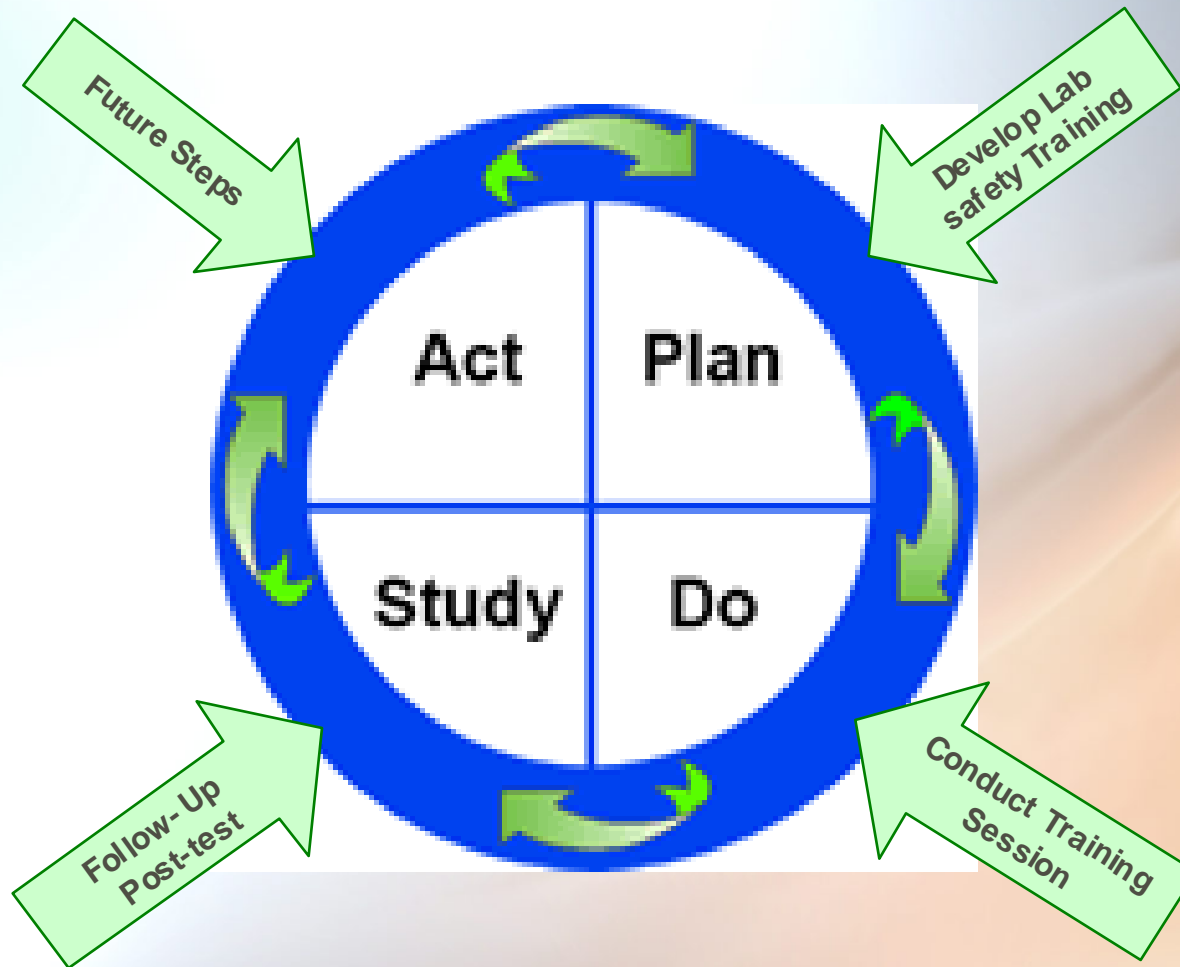
A Worksite Health Education
Training Session:
The Reduction of Risk of
Exposure to Bloodborne
Diseases

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Quality Improvement: PDSA Cycle



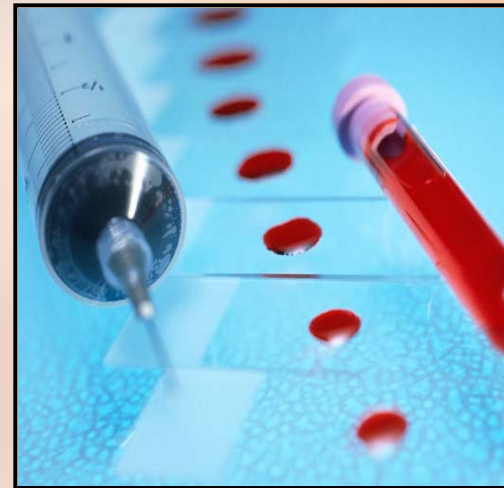
*PDSA Cycle: <http://www.dartmouth.edu/~ogehome/CQI/PDCA.html>

Project Purpose and Goal

- **Purpose:**
 - **Develop and implement a 60-minute training curriculum on bloodborne pathogens for employees at the Public Health Laboratory.**
- **Goal:**
 - **Educate employees at the Public Health Laboratory on the health and safety precautions to prevent exposure to bloodborne diseases**

Protection for Healthcare Workers

- **The Centers for Disease Control and Prevention (CDC), first to implement guidelines, Universal Precautions**
- **1991, Occupational Safety and Health Administration (OSHA) devised policy known as Bloodborne Pathogens Standard 29 CFR 1910.1030**
- **Needle Safety and Prevention Act, 2001**



Occupational Safety and Health Administration. Most frequently asked questions concerning the bloodborne pathogens standard. 1993.

www.osha.gov

Bloodborne Pathogens Standard

- **Provides information and regulations:**
 - On safe work practices
 - Personal protective equipment
 - Needle stick safety
 - Occupational injury
- **Information and training**
- **Training frequency**

Occupational Safety and Health Administration. Bloodborne Pathogens. 1992. www.osha.gov

Continued Training and Education

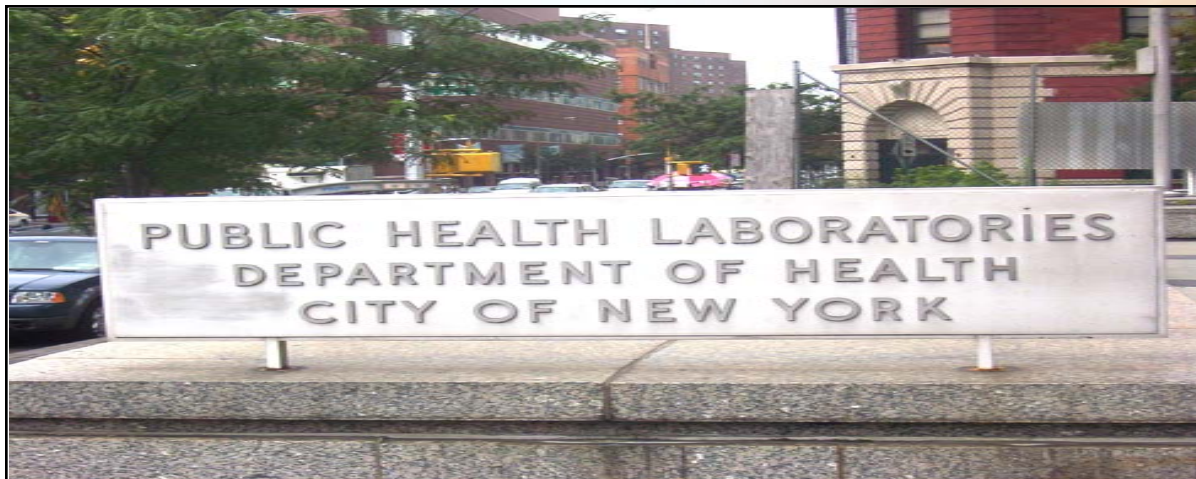
- **Healthcare workers perception of occupational exposure:**
 - “An unavoidable hazard”
 - Model techniques of senior level staff
- **Responses:**
 - Unique to job function
 - Unique to specific tasks



Mutha et al, (1999). Healthcare Workers' Perceptions of Occupational Exposure. *Infection Control and Hospital Epidemiology*, 20, 592-593.

Public Health Laboratory

- **NYC Department of Health**
- **Provides laboratory testing 400,000+ specimens a year**
- **Leading laboratories bioterrorism**
- **Employs ~ 200 staff (65% in the lab)**



New York City Department of Health and Mental Hygiene. Tests and Services Manual. 2005. www.nyc.gov

Objectives

To increase the following by 20% through a one hour education session:

- 1. Knowledge and awareness of the epidemiology and transmission of bloodborne pathogens.**
- 2. Increase awareness of safe laboratory practices.**

Curriculum Content

- **Content - OSHA Bloodborne Pathogens Standard**
- **Curriculum included:**
 - Epidemiology, symptoms, and modes of transmission for bloodborne diseases
 - HBV vaccine
 - Exposure to infectious materials
 - Personal protective equipment



Occupational Safety and Health Administration. Bloodborne Pathogens. 1992. www.osha.gov

Methods



- **Training session**

- Health education-based presentation
- Handouts
- Exercises/ Games

- **Two types of training sessions:**

- Administrative
- Laboratory Staff

- **Seven sessions were held among 25-30 attendees for each training**

Participants

- **Educational level of participants**

- high school graduates to PhD

- **English was a second language for ~10% of the participants**



Evaluation

- **Pre & Post-tests were given to the participants:**
 - **Consisted of multiple choice and short answer questions**
 - **Scored using a standard 100 point scale**

Testing Questions

•Types of questions:

–Multiple choice:

- Which of the following infectious materials could contain bloodborne pathogens?*

–Short Answer:

- Name two methods to prevent exposure to bloodborne diseases, Define universal precautions*

•Results:

–Most participants answered correctly:

- What are bloodborne pathogens?*

–Question answered incorrectly:

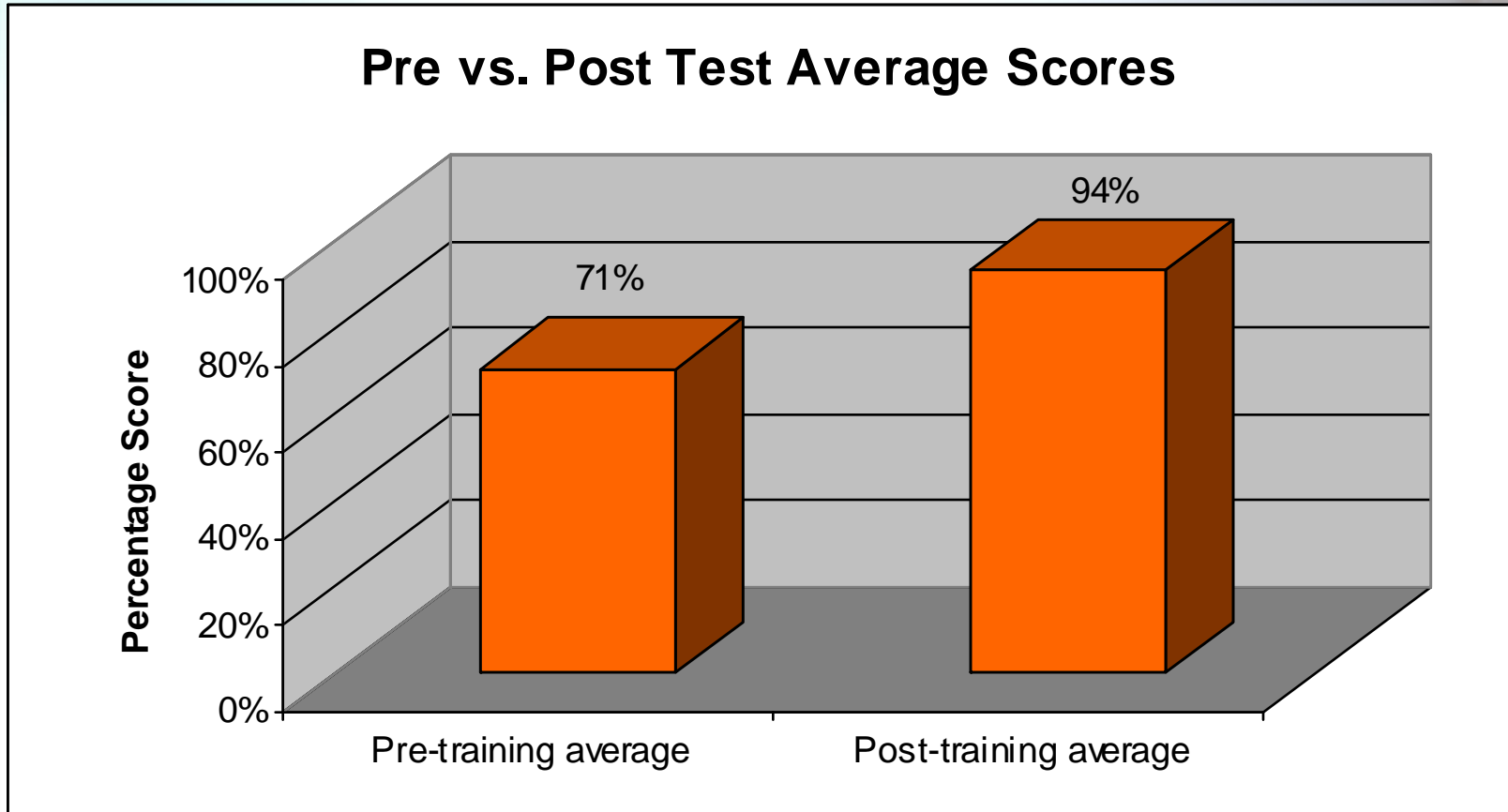
- Name two ways to prevent exposure to bloodborne pathogens.*

Analysis and Results

- **Paired t-test analysis**
- **Participants' knowledge of bloodborne diseases and awareness of safe laboratory practices increased by 24% ($p < 0.001$ in a paired t-test)**



Score Comparison



Barriers

- **Compliance from employees**
 - Not interested
 - Time conflict
- **Conducting an effective educational session**
- **Researcher bias as:**
 - Data collection point of contact
 - Trainer
- **Pre-test limitations**

Future Steps

- **Further assessments of employees injuries and occupational exposure**
 - Comparison of rates before and after
- **Implementing other forms of reference material for workers**
 - Laboratory safety poster
 - Waste Disposal Guidelines

Acknowledgements

- **Jacqueline Terlonge, MPH**
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Questions ?



...and I thought safety meetings were boring!