

Applying the Hierarchy of Controls to Mitigate Infectious Disease Transmission During Training Events

*NIEHS Worker Training Program Fall 2022 Workshop
October 21, 2022*

Janelle Rios, PI

Prevention, Preparedness, and Response (P2R) Consortium

NIEHS Award No. U45ES019360

In-Person with Hybrid Modification

Mitigation Measures Program

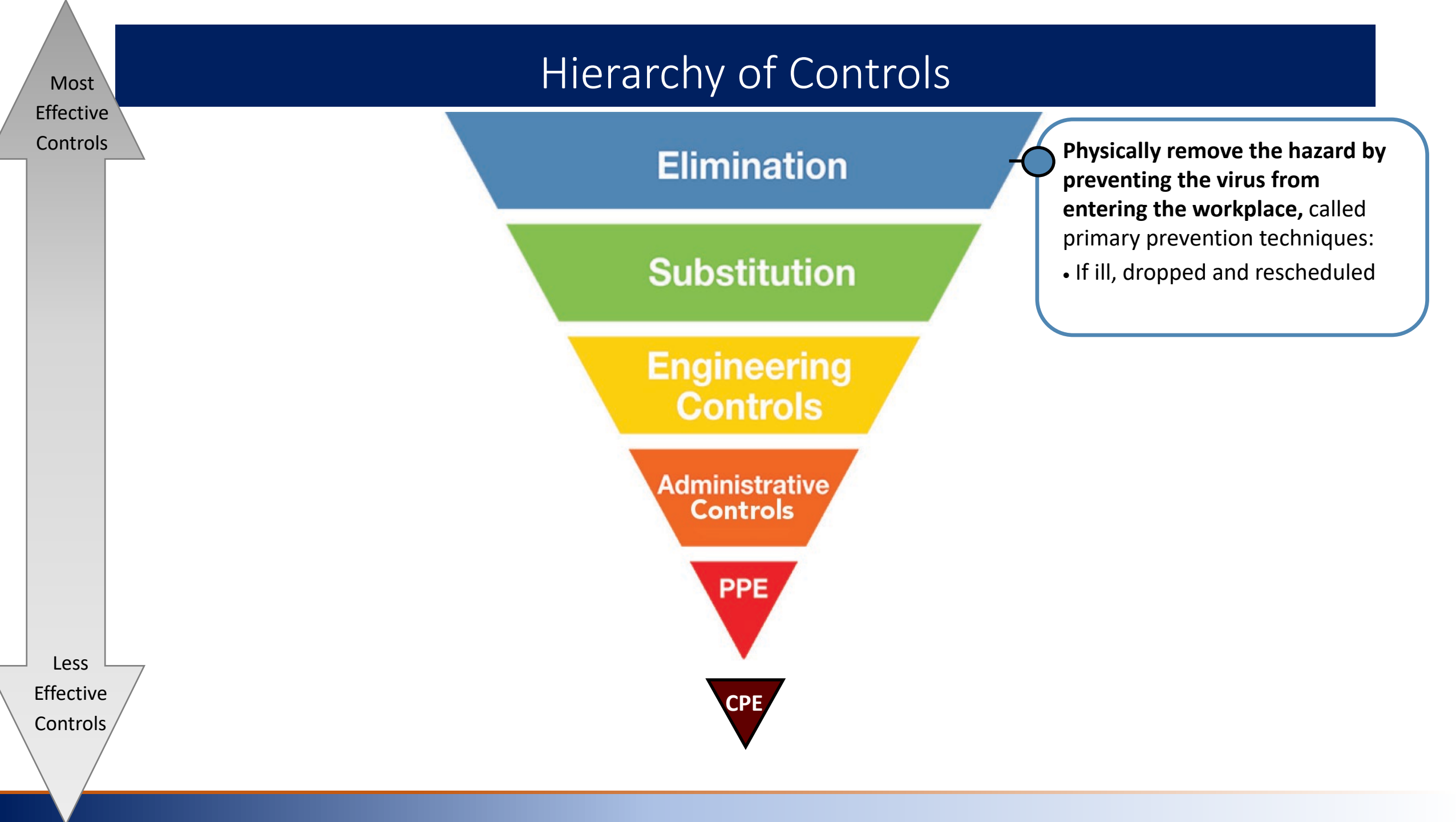
- Written
- Specific
 - Conditions
 - Course
- Communicated by distributed ~ 2 weeks prior to course start date

Mitigation Measures Program for 40-hr HAZWOPER

Edinburg, TX | August 17-21, 2020

- I. Course Description
- II. Overview of Course Schedule
 - Summary table w/ online & in-person activities by day
- III. COVID-19 Control Measures
 - Introduction
 - Elimination
 - Engineering
 - Administrative
 - Personal protective equipment
 - Community protective equipment
- IV. Group Assignments
- V. Detailed Agenda: clearly described times, course units, whether online/in-person, and group #

Hierarchy of Controls



Hierarchy of Controls

Most Effective Controls

Less Effective Controls

Elimination

Substitution

Engineering Controls

Administrative Controls

PPE

CPE

Isolate people from the hazard:

- Disinfect surfaces w/ EPA-reg disinfectant ([EPA List N](#)):
 - Manufacturer's instructions
 - Bleach-based: Freq touch
 - H₂O₂-based: reusable PPE
- Increased spacing in the classroom

- Physically remove the hazard by preventing the virus from entering the workplace, called primary prevention techniques:
- If ill, dropped and rescheduled

Hierarchy of Controls

Most Effective Controls

Less Effective Controls

Elimination

Substitution

Engineering Controls

Administrative Controls

PPE

CPE

Isolate people from the hazard:

- Disinfect surfaces w/ EPA-reg disinfectant ([EPA List N](#)):
 - Manufacturer's instructions
 - Bleach-based: Freq touch
 - H₂O₂-based: reusable PPE
- Increased spacing in the classroom

- Physically remove the hazard by preventing the virus from entering the workplace, called primary prevention techniques:
- If ill, dropped and rescheduled

Change how work is performed:

- Moved didactic sessions online
- Created 4 teams of 45 people each – included in the mitigation measures document
- Limited cross-team i-person interactions, only 1-2 teams on site
- Encouraged hand washing and use of hand sanitizers

Overview

	Monday	Tuesday	Wednesday	Thursday	Friday
<i>Online Activities</i>					
	<u>Units:</u> 1- Regulations 2- Health & physical hazards 3- Fire safety 5- Respiratory protection 6- PPE	<u>Units:</u> 4- Hazard recognition & identification 7- ICS for industry 8- Air monitoring 9- Radiation 10- Site control	<u>Units:</u> 11- Site characterization & sampling 12- Medical surveillance 13- Worker health & safety 15- Decontamination	<u>Units:</u> 14- Worksite safety 16- Emergency procedures 17- Confined space awareness	-Course review -Q&A session -Final exam
<i>In-person Activities</i>					
	<u>Groups 1, 2, & 3:</u> Drum handling & overpacking <u>Group 4:</u> SCBA & level A suit familiarization	<u>Groups 3 & 2:</u> SCBA & level A suit familiarization <u>Group 4:</u> Drum handling & overpacking	<u>Group 1:</u> SCBA & level A suit familiarization <u>Group 4:</u> Level A scenario <u>Group 3:</u> Decon exercise	<u>Groups 2 & 3:</u> Level A scenario <u>Group 1 & 4:</u> Decon exercise	<u>Group 1:</u> Level A scenario <u>Group 2:</u> Decon exercise

Detailed

V. Detailed Agenda

	<u>Unit</u>	<u>Description</u>	<u>Online</u>	<u>On Campus</u>
Monday				
8:45		Webinar portal opens	Yes	
9:00		Welcome & Introductions	Yes	
9:15	1	Regulations	Yes	
10:00	2	Health & Physical Hazards	Yes	
12:00		Lunch		
1:00	3	Fire Safety	Yes	
1:30	5 & 6	Respiratory Protection & PPE	Yes	
2:30		Break		
3:00		Drum Handling & Overpacking		Group 1
3:30		Drum Handling & Overpacking		Group 2
4:00		Drum Handling & Overpacking		Group 3
4:30		SCBA & Level A Suit Familiarization		Group 4
Tuesday				
9:00		SCBA & Level A Suit Familiarization		Group 3
10:00	4	Hazard Recognition & Identification	Yes	
11:00	7	ICS for Industry	Yes	
12:00		Lunch		
1:00	8	Air Monitoring	Yes	
1:30	9	Radiation	Yes	
2:30	10	Site Control	Yes	
3:30		Drum Handling & Overpacking		Group 4
4:00		SCBA & Level A Suit Familiarization		Group 2
Wednesday				
9:00		SCBA & Level A Suit Familiarization		Group 1
10:30	11	Site Characterization & Sampling	Yes	

Hierarchy of Controls

Most Effective Controls

Elimination

Physically remove the hazard by preventing the virus from entering the workplace, called primary prevention techniques:

- If ill, dropped and rescheduled

Substitution

Isolate people from the hazard:

- Disinfect surfaces w/ EPA-reg disinfectant ([EPA List N](#)):
 - Manufacturer's instructions
 - Bleach-based: Freq touch
 - H₂O₂-based: reusable PPE
- Increased spacing in the classroom

Engineering Controls

Change how work is performed:

- Moved didactic sessions online
- Created 4 teams of 45 people each – included in the mitigation measures document
- Limited cross-team i-person interactions, only 1-2 teams on site
- Encouraged hand washing and use of hand sanitizers

Administrative Controls

Protect the worker from the hazard by using PPE

- Designed to protect the wearer
- Training to use, reuse, clean, disinfect, discard PPE & made PPE available

PPE

CPE

Less Effective Controls

Hierarchy of Controls

Most Effective Controls

Elimination

Physically remove the hazard by preventing the virus from entering the workplace, called primary prevention techniques:

- If ill, dropped and rescheduled

Substitution

Isolate people from the hazard:

- Disinfect surfaces w/ EPA-reg disinfectant ([EPA List N](#)):
 - Manufacturer's instructions
 - Bleach-based: Freq touch
 - H₂O₂-based: reusable PPE
- Increased spacing in the classroom

Engineering Controls

Change how work is performed:

- Moved didactic sessions online
- Created 4 teams of 45 people each – included in the mitigation measures document
- Limited cross-team i-person interactions, only 1-2 teams on site
- Encouraged hand washing and use of hand sanitizers

Administrative Controls

Protect the worker from the hazard by using PPE

- Designed to protect the wearer
- Training to use, reuse, clean, disinfect, discard PPE & made PPE available

PPE

CPE

Use community protective equipment (CPE)

- Designed to protect others from the wearer
- Made disposable masks available

Less Effective Controls

Benefits and Challenges

- Benefits
 - Resume in-person training
 - No known viral transmission
- Challenges
 - Physically demanding for the instructor
 - Travel disallowed by the university