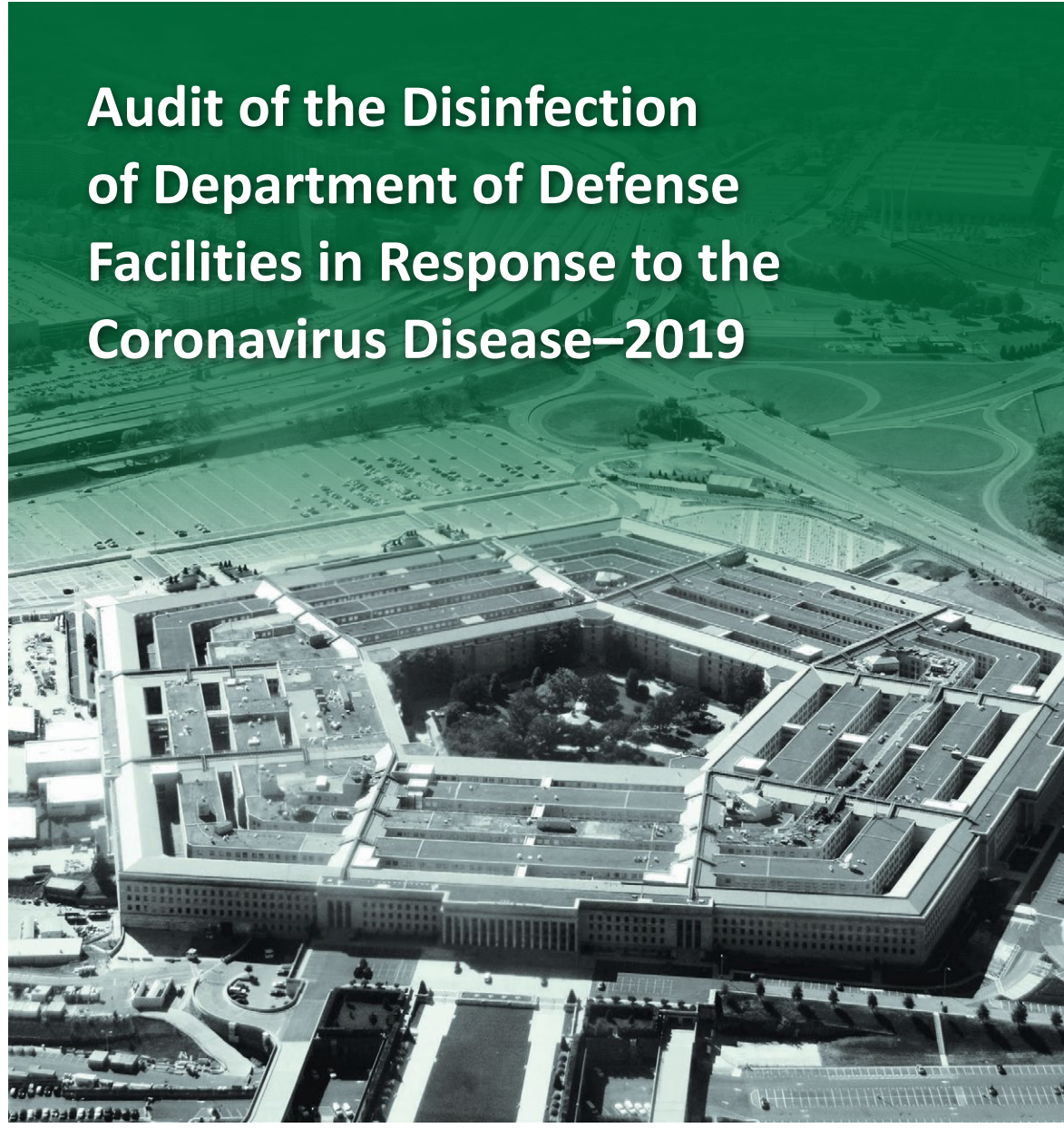


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INSPECTOR GENERAL

U.S. Department of Defense

DECEMBER 18, 2020



Audit of the Disinfection of Department of Defense Facilities in Response to the Coronavirus Disease–2019

INTEGRITY ★ INDEPENDENCE ★ EXCELLENCE

The document contains information that may be exempt from mandatory disclosure under the Freedom of Information Act.

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Results in Brief

Audit of the Disinfection of Department of Defense Facilities in Response to the Coronavirus Disease–2019

December 18, 2020

Objective

The objective of this audit was to determine whether DoD and DoD contractor personnel disinfected areas that were occupied by individuals who tested positive for the coronavirus disease–2019 (COVID-19) in accordance with the Centers for Disease Control and Prevention (CDC) guidance.

Background

On March 13, 2020, the President declared a national emergency in response to the outbreak of COVID-19 in the United States. COVID-19 is an infectious disease that can spread through direct contact with an infected person or indirect contact with surfaces that were contaminated by an infected person. To reduce the risk of exposure to the virus that causes COVID-19, Federal and DoD officials issued guidance for disinfecting areas that were occupied by individuals who tested positive for COVID-19.

On April 1, 2020, the CDC published guidance for disinfecting areas that were occupied by individuals who tested positive for COVID-19 (referred to as affected areas in this report). In this report, affected areas that need disinfection refer to all areas that the infected individual occupied, including his or her office, restrooms, and common areas such as an elevator. According to the CDC guidance, disinfecting crews should wait at least 24 hours, or as long as possible, before entering affected areas. In addition, disinfecting crews should disinfect affected

Background (cont'd)

areas using products that the Environmental Protection Agency approved and use personal protective equipment when disinfecting affected areas.

Based on the CDC guidance, the Office of the Under Secretary of Defense for Personnel and Readiness issued guidance on April 13, 2020, related to protecting DoD personnel during the response to the COVID-19 pandemic. Specifically, the Office of the Under Secretary of Defense for Personnel and Readiness issued Force Health Protection Guidance (Supplement 8) stating that DoD Components should follow CDC guidance when disinfecting affected areas.

Based on Federal and DoD guidance, the DoD and DoD contractor personnel coordinated and performed the disinfection of areas that were previously occupied by individuals who tested positive for COVID-19. As more of the DoD workforce returns to work, disinfection efforts reduce the risk of infection for DoD personnel who enter areas that were previously occupied by individuals who tested positive for COVID-19.

Finding

At all eight DoD installations we reviewed, DoD and DoD contractor personnel disinfected, in accordance with CDC guidance, the areas that were previously occupied by individuals who tested positive for COVID-19. We determined that in all 21 cases we reviewed from April 1, 2020 through June 30, 2020, DoD and DoD contractor personnel complied with CDC guidance for disinfecting affected areas. Specifically, we determined that when DoD personnel identified an affected area, DoD and DoD contractor personnel:

- waited at least 24 hours, or as long as possible, before disinfecting affected areas;
- disinfected affected areas using disinfectants approved by the Environmental Protection Agency; and
- used personal protective equipment when disinfecting affected areas.



Results in Brief

Audit of the Disinfection of Department of Defense Facilities in Response to the Coronavirus Disease-2019

Finding (cont'd)

Disinfecting areas in accordance with CDC guidance can kill the virus that causes COVID-19. As a result, DoD personnel reduced the risk of exposure to COVID-19 and further protected DoD personnel from the spread of COVID-19 in DoD workspaces. While we conclude that the implemented disinfecting procedures provided reasonable assurance that DoD and DoD contractor personnel at the selected DoD installations complied with CDC guidance, these disinfecting procedures do not eliminate the risk of infection through contaminated surfaces and individuals may still be exposed to the virus that causes COVID-19.



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500

December 18, 2020

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR PERSONNEL
AND READINESS

ASSISTANT SECRETARY OF DEFENSE FOR HEALTH AFFAIRS
DIRECTOR, DEFENSE HEALTH AGENCY
DIRECTOR, WASHINGTON HEADQUARTERS SERVICES
AUDITOR GENERAL, DEPARTMENT OF THE ARMY
AUDITOR GENERAL, DEPARTMENT OF THE NAVY
AUDITOR GENERAL, DEPARTMENT OF THE AIR FORCE

SUBJECT: Audit of the Disinfection of DoD Facilities in Response to the Coronavirus
Disease-2019 (Report No. DODIG-2021-036)

This final report provides the results of the DoD Office of Inspector General's audit. We considered management's comments on a discussion draft copy of this report when preparing the final report. We did not make any recommendations; therefore, no management comments are required.

We appreciate the cooperation and assistance received during the audit. If you have any questions, please contact me at [REDACTED]

A handwritten signature in black ink that reads "Richard B. Vasquez".

Richard B. Vasquez
Assistant Inspector General for Audit
Readiness and Global Operations

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Introduction

Objective

The objective of this audit was to determine whether DoD and DoD contractor personnel disinfected areas that were occupied by individuals who tested positive for the coronavirus disease–2019 (COVID-19) in accordance with the Centers for Disease Control and Prevention (CDC) guidance. Please see the Appendix for a discussion of the scope and methodology.

Background

On March 13, 2020, the President declared a national emergency in response to the outbreak of COVID-19 in the United States. COVID-19 is an infectious disease that can spread through direct contact with an infected person or indirect contact with surfaces that were contaminated by an infected person. As of November 12, 2020, the World Health Organization reported that over 10 million Americans tested positive for COVID-19, resulting in over 238,000 deaths.

As of November 12, 2020, the World Health Organization reported that over 10 million Americans tested positive for COVID-19, resulting in over 238,000 deaths.

To reduce the risk of exposure to the virus that causes COVID-19, Federal and DoD officials issued guidance for disinfecting areas occupied by individuals who tested positive for COVID-19. Based on Federal and DoD guidance, the DoD and DoD contractor personnel coordinated and performed the disinfection of areas that were occupied by individuals who tested positive for COVID-19. As more of the DoD workforce returns to work, disinfection efforts should reduce the risk of infection for DoD personnel who enter areas that were previously occupied by individuals who tested positive for COVID-19.

Coronavirus Disease–2019

COVID-19 is an infectious disease caused by severe acute respiratory syndrome coronavirus 2. According to the CDC, most people infected with COVID-19 may experience mild symptoms, such as a fever, chills, cough, body aches, and a sore throat. However, the CDC also states that older adults and people with certain underlying medical conditions, such as heart disease, diabetes, and cancer, are more likely to develop serious complications from COVID-19, which could result in death.

According to the CDC, COVID-19 can spread through direct contact with an infected individual or surfaces contaminated with the virus. Specifically, individuals who tested positive for COVID-19 can spread the virus through respiratory droplets that are produced when they cough, sneeze, or talk. These droplets can land in mouths or noses of individuals nearby. In addition, people can become infected with COVID-19 by touching contaminated objects or surfaces and then touching their eyes, nose, or mouth. To prevent the spread of the virus that causes COVID-19 through contaminated surfaces, the CDC published guidance that provides recommendations for disinfecting areas occupied by individuals who tested positive for COVID-19. Furthermore, the DoD issued guidance directing DoD Components to follow the CDC recommendations for disinfecting areas that were occupied by individuals who tested positive for COVID-19.

Disinfection Guidance

The CDC and the Office of the Under Secretary of Defense for Personnel and Readiness (OUSDP&R]) developed and issued COVID-19 disinfection policies and procedures.

CDC Guidance

On April 1, 2020, the CDC published guidance for disinfecting areas that were occupied by individuals who tested positive for COVID-19 (referred to as affected areas in this report).¹ In this report, affected areas that need disinfection refers to all areas that the infected individual occupied, including his or her office, restrooms, and common areas such as an elevator. In a large facility such as the Pentagon or Mark Center, the term affected area refers to an infected individual's workspace, and high-touch areas such as bathrooms and elevators; therefore, the entire building would not need to be disinfected. In a smaller facility, such as an air traffic control tower, affected areas refers to the entire building. The CDC guidance states that disinfection is not required if the individual who tested positive for COVID-19 did not enter the facility in the past seven days.² Otherwise, the CDC guidance states that disinfecting crews should focus on disinfecting frequently touched surfaces, which include tables, doorknobs, countertops, desks, toilets, and sinks. When disinfecting an affected area, the CDC guidance states that disinfecting crews should:

- wait at least 24 hours, or as long as possible, before disinfecting areas that were previously occupied by individuals with COVID-19;

¹ CDC, "Cleaning and Disinfecting Your Facility," April 1, 2020.

² According to the CDC, the virus that causes COVID-19 has not been shown to survive on surfaces for longer than seven days.

- disinfect affected areas using disinfectants that the Environmental Protection Agency (EPA) approved on List N for use against the virus that causes COVID-19 (referred to as EPA-approved disinfectants in this report)³; and
- use personal protective equipment (PPE) such as disposable gloves and gowns when disinfecting affected areas.

OUSD(P&R) Guidance

Based on the CDC guidance, the OUSD(P&R) issued guidance on April 13, 2020, related to protecting DoD personnel during the response to the COVID-19 pandemic. Specifically, the OUSD(P&R) issued Force Health Protection Guidance (Supplement 8) stating that DoD Components should follow CDC guidance when disinfecting affected areas.⁴

DoD Installations Reviewed

During this audit, we verified whether DoD and DoD contractor personnel at eight DoD installations complied with CDC guidance when disinfecting areas that were previously occupied by individuals who tested positive for COVID-19. Specifically, we selected two installations from each Military Service and from DoD agencies in the National Capital Region that reported at least 10 instances of an individual testing positive for COVID-19 from April 1, 2020 through June 30, 2020. Therefore, we originally selected 10 installations for review. However, at two Navy installations, we determined that none of the individuals who tested positive for COVID-19 entered their workspace and those installations did not have cases for us to include in our review. Finally, of the eight installations remaining, we developed a nonstatistical sample of 21 cases that required disinfection from April 1, 2020, through June 30, 2020.⁵ Table 1 lists the 10 DoD installations we included in our initial review, the number of cases of disinfection from the installation we included in our nonstatistical sample, the number of instances when an individual tested positive for COVID-19 at each installation, and notes the two installations we omitted. See the Appendix for our nonstatistical sample of DoD installations and positive COVID-19 cases at each DoD installation we reviewed.

³ The EPA maintains multiple lists of environmentally dangerous substances such as hazardous waste and hazardous chemicals; the EPA expects all products on List N to kill the virus that causes COVID-19.

⁴ OUSD (P&R), "Force Health Protection Guidance (Supplement 8) – Department of Defense Guidance for Protecting Personnel in Workplaces During the Response to the Coronavirus Disease 2019 Pandemic," April 13, 2020.

⁵ In this report, we will use the term "cases" to refer to instances when individuals who tested positive for COVID-19 entered a DoD facility that needed to be disinfected.

~~(FOUO)~~ Table 1. List of Cases Requiring Disinfection and the Number of Personnel Who Tested Positive for COVID-19 at the DoD Installations We Reviewed.

(FOUO) DoD Component	DoD Installation	COVID-19 Cases Requiring Disinfection In Our Non-Statistical Sample ¹	Number of Individuals Who Tested Positive for COVID-19 at the Installation ²
Army	Fort Bragg, North Carolina	3	■
	Hunter Army Airfield, Georgia	3	■
Navy ³	Mid-Atlantic Regional Maintenance Center, Naval Station Norfolk, Virginia	0	■
	Strategic Weapons Facility, Pacific, Naval Base Kitsap, Washington	0	■
Air Force	Luke AFB, Arizona	3	■
	Mountain Home AFB, Idaho	3	■
Marine Corps	MCAS Yuma, Arizona	2	■
	MCB Camp Pendleton, California	2	■
Washington Headquarters Services	Pentagon, Arlington, Virginia	4	■
	Mark Center, Alexandria, Virginia	1	■
Total number of cases requiring disinfection in our nonstatistical sample		21	
Total number of individuals testing positive for COVID-19			■ (FOUO)

¹ This column represents the number of cases from the installation that required disinfection that we used in our nonstatistical sample. We included three cases per installation; any number below three in this column indicates that there were fewer than three cases at the installation that required disinfection. The Pentagon has four cases because we expanded our nonstatistical sample to include additional cases when individuals entered the Pentagon facility after testing positive for COVID-19; in the rest of our nonstatistical sample, the individuals who tested positive for COVID-19 did not return to their workspace until they were no longer contagious.

² This column represents the number of personnel who tested positive for COVID-19 that were reported by the Joint Staff COVID-19 Crisis Management Team, Pentagon Force Protection Agency, and Fort Bragg officials for the DoD installations we reviewed. We did not validate the total number of positive COVID-19 cases at each location, as that number was not relevant to our audit objective. In addition, we did not determine the total number of cases that required disinfection at each installation we reviewed.

³ According to Navy officials from the Mid-Atlantic Regional Maintenance Center, Naval Station Norfolk, Virginia, and the Strategic Weapons Facility, Pacific, Naval Base Kitsap, Washington, they did not have any instances of affected areas that required disinfection from April 2020 through June 2020. We are including the Naval installations in this table to explain why the Navy is not in our nonstatistical sample of reviewed DoD installations.

Source: Joint Staff COVID-19 Crisis Management Team, Pentagon Force Protection Agency, and the DoD OIG.

Review of Internal Controls

DoD Instruction 5010.40 requires DoD organizations to implement a comprehensive system of internal controls that provides reasonable assurance that programs are operating as intended and to evaluate the effectiveness of the controls.⁶ We did not identify internal control weaknesses related to the disinfection of areas that were previously occupied by individuals who tested positive for COVID-19 at the DoD installations we reviewed.

⁶ DoD Instruction 5010.40, "Managers' Internal Control Program Procedures," May 30, 2013, (Incorporating Change 1, June 30, 2020).

Finding

DoD and DoD Contractor Personnel Disinfected Affected Areas in Accordance With CDC Guidance

At all eight DoD installations we reviewed, DoD officials reported that DoD and DoD contractor personnel disinfected, in accordance with CDC guidance, the areas that were occupied by individuals who tested positive for COVID-19. We concluded that in all 21 cases we reviewed from April 1, 2020 through June 30, 2020, DoD officials complied with CDC guidance for disinfecting affected areas. Specifically, by comparing DoD officials' descriptions with documentation of the actions they took, we concluded that when DoD officials identified an affected area, DoD and DoD contractor personnel:

- waited at least 24 hours, or as long as possible, before disinfecting affected areas;
- disinfected affected areas using EPA-approved disinfectants; and
- used PPE when disinfecting affected areas.⁷

Disinfecting areas that were occupied by individuals who tested positive for COVID-19 in accordance with CDC guidance can kill the virus that causes COVID-19. As a result, DoD personnel reduced the risk of exposure to COVID-19 and further protected DoD personnel from the spread of COVID-19 in DoD workspaces. While we conclude that the implemented disinfecting procedures provided reasonable assurance that DoD and DoD contractor personnel at the selected DoD installations complied with CDC guidance, these disinfecting procedures do not eliminate the risk of infection through contaminated surfaces and individuals may still be exposed to the virus that causes COVID-19.

DoD and DoD Contractor Personnel Followed CDC Guidance When Disinfecting Affected Areas

At all eight DoD installations we reviewed, DoD officials reported that DoD and DoD contractor personnel disinfected, in accordance with CDC guidance, the areas that were previously occupied by individuals who tested positive for COVID-19. Based on our analysis of DoD officials' responses to survey questions, installation-specific policies for disinfecting affected areas, and documents such as janitorial contracts, disinfection work order requests, and employee time cards, we concluded that DoD

⁷ When contractor personnel performed disinfecting procedures at DoD installations, we refer to them as DoD contractor personnel.

and DoD contractor personnel at the eight selected DoD installations complied with CDC disinfection guidance for the 21 cases we reviewed that occurred from April 2020 through June 2020.

Compliance with CDC Guidance and Positive COVID-19 Cases Reviewed

DoD and DoD contractor personnel at the eight selected DoD installations complied with CDC guidance for COVID-19 disinfection for all 21 cases that we reviewed that occurred from April 2020 through June 2020. According to Force Health Protection Guidance (Supplement 8), DoD Components should follow CDC

DoD and DoD contractor personnel at the eight selected DoD installations complied with CDC guidance for COVID-19 disinfection for all 21 cases that we reviewed that occurred from April 2020 through June 2020.

guidance when disinfecting affected areas.⁸ To determine whether DoD and DoD contractor personnel followed the CDC and DoD guidance, we submitted a questionnaire to the DoD officials responsible for COVID-19 disinfections at the eight installations we reviewed. We asked that the officials document their process for identifying affected areas, and how they coordinated and performed the disinfection of affected areas at their installation. In addition, we asked the officials to identify up to three cases that required disinfection from a list of positive COVID-19 cases at their installation.⁹ Furthermore, we asked DoD officials to provide supporting documentation of the actions taken to disinfect the areas that were previously occupied by the positive COVID-19 cases they selected. Finally, we reviewed each DoD installation’s guidance, such as Operations Orders and Standard Operating Procedures, related to COVID-19 and determined whether the installation guidance complied with CDC guidance.

We compared the DoD officials’ responses regarding actions taken to disinfect affected areas with the CDC guidance and DoD installation policies and procedures implemented for disinfecting affected areas, and when available, we reviewed documents verifying that the disinfection occurred. In some cases, documentation was not available because the CDC and the DoD do not require DoD personnel to develop and maintain documentation supporting that areas occupied by individuals

⁸ OUSD (P&R), “Force Health Protection Guidance (Supplement 8) – Department of Defense Guidance for Protecting Personnel in Workplaces During the Response to the Coronavirus Disease 2019 Pandemic,” April 13, 2020.

⁹ COVID-19 case data for the Pentagon and Mark Center already identified whether disinfection procedures were performed. Therefore, we did not have to ask officials at those locations to identify three cases that required disinfection, because we selected three cases for each installation based on the data we had on hand.

with COVID-19 were disinfected in accordance with CDC guidance. Specifically, we verified that for the 21 cases reviewed at the eight DoD installations, either DoD or DoD contractor personnel:

- waited at least 24 hours, or as long as possible, before disinfecting affected areas;
- disinfected affected areas using EPA-approved disinfectants; and
- used PPE when disinfecting affected areas.

Disinfecting Crews Waited at Least 24 Hours or as Long as Possible

DoD and DoD contractor personnel at the eight DoD installations we reviewed reported that they waited at least 24 hours or as long as operationally feasible, before disinfecting affected areas. The CDC guidance states that disinfecting crews should close off areas, increase air circulation by opening doors and windows, and wait 24 hours, or as long as possible, before disinfecting areas that were previously occupied by individuals who tested positive for COVID-19.

DoD and DoD contractor personnel at Fort Bragg, Hunter Army Airfield, MCAS Yuma, MCB Camp Pendleton, and the Pentagon stated that they waited at least 24 hours, before entering the affected areas to disinfect. For example, the Fort Bragg Department of Family, Morale, Welfare and Recreation personnel explained that they closed the Soldier Support Center coffee shop after an employee with COVID-19 entered the facility. Fort Bragg officials explained that the coffee shop remained closed for 72 hours before employees entered the affected areas to disinfect. In addition, according to Hunter Army Airfield personnel, an individual who tested positive for COVID-19 on June 26, 2020, last occupied the Brigade Operations Center on June 25, 2020. As a result, on June 26, 2020, Army personnel vacated the Brigade Operations Center for seven days before Army personnel disinfected the facility. Therefore, Fort Bragg and Hunter Army Airfield personnel followed CDC guidance related to waiting at least 24 hours before disinfecting affected areas.

Similarly, DoD personnel at Mountain Home AFB stated that they determined on a case-by-case basis whether it was practical to wait a full 24 hours prior to disinfecting affected areas. In the three cases in our nonstatistical sample, Mountain Home AFB personnel stated that they waited as long as possible, but less than 24 hours, before disinfecting affected areas, because waiting 24 hours would have a negative impact on the overall efficiency of Mountain Home AFB operations. According to the CDC, waiting 24 hours, or as long as possible, before disinfecting affected areas reduces the exposure of disinfecting personnel to COVID-19 and the

risk of infection. Even though Mountain Home AFB personnel did not wait 24 hours before entering the affected area to disinfect, Mountain Home AFB personnel still followed CDC guidance as they waited as long as they deemed possible.

EPA-Approved Disinfectants Were Used to Disinfect Affected Areas

We concluded that DoD and DoD contractor personnel at the eight DoD installations we reviewed used EPA-approved disinfectants to disinfect affected areas. The CDC guidance states that disinfecting crews should use EPA-approved disinfectants for use against COVID-19 to disinfect affected areas. We asked officials at each installation to provide us with a list or photos of the products that they used to disinfect affected areas. We then compared the products with the EPA’s list of approved disinfectants for use against COVID-19. Therefore, we concluded that the products the DoD and DoD contractor personnel used were EPA-approved disinfectants, in accordance with the CDC guidance. Table 2 below lists the disinfectants that DoD officials reported were used at the eight selected DoD installations that we then verified were EPA-approved.

We concluded that DoD and DoD contractor personnel at the eight DoD installations we reviewed used EPA-approved disinfectants to disinfect affected areas.

Table 2. EPA-approved Disinfectants Used at the Eight Selected DoD Installations

DoD Installation	EPA-approved Disinfectant Used
Fort Bragg	Monogram Disinfectant Bleach, Clorox Disinfecting Wipes, Members Mark Commercial Sanitizer, Pure Bright Germicidal Ultra Bleach, Mold Armor Mold Remover and Disinfectant, and Shockwave Disinfectant and Sanitizer
Hunter Army Airfield	State Neutral Disinfectant Cleaner and Lysol Disinfecting Wipes
Mountain Home AFB	Lysol Wipes and Spray
Luke AFB	Clorox 360 Disinfecting Spray, TB-Cide, BNC-15, and Clorox wipes
MCAS Yuma	ProKure V
MCB Camp Pendleton	Clorox Disinfectant Products
Pentagon	Clorox Pro Clorox Total 360 Disinfecting Cleaner, Lemon E Extra solution, and Bioesque solution
Mark Center	BNC-15

Source: DoD OIG developed based on information provided by the DoD installations.

PPE Was Used When Disinfecting Affected Areas

DoD and DoD contractor personnel at the eight DoD installations we reviewed reported that they wore PPE when disinfecting affected areas. The CDC guidance states that disinfecting crews should wear PPE, such as disposable gloves and gowns, as they disinfect affected areas.

DoD and DoD contractor personnel at the DoD installations we reviewed reported that their staff used PPE, in accordance with CDC guidance, when disinfecting affected areas. For example, after Hunter Army Airfield personnel reported that after they learned an infected individual had occupied a residential building on the installation, Hunter Army Airfield personnel wore PPE, such as chemical protective masks, gowns, face masks, gloves, and boots, as they disinfecting the affected areas inside the building. Figure 1 shows examples of PPE that Hunter Army Airfield personnel wore during the disinfection of affected areas.



Figure 1. Hunter Army Airfield Personnel Wearing PPE While Disinfecting Affected Areas
Source: Hunter Army Airfield.

Similar to Hunter Army Airfield personnel, MCAS Yuma officials stated that DoD contractor personnel used PPE, including gowns, disposable shoe covers, safety glasses, gloves, and N95 face masks, when disinfecting affected areas inside a residential building. According to the CDC, PPE protects disinfecting crews from the toxic effects of chemicals in disinfectant products. PPE also reduces the disinfecting crews' exposure to COVID-19, which may be transmitted through contaminated surfaces in affected areas.

Summary

We concluded that DoD and DoD contractor personnel at the eight DoD installations we reviewed disinfected, in accordance with CDC guidance, areas that were previously occupied by individuals who tested positive for COVID-19. Specifically, DoD and DoD contractor personnel reported that they ensured the affected areas were vacated for at least 24 hours, or as long as possible, before DoD and DoD contractor personnel disinfected the affected areas. DoD officials also reported that DoD and DoD contractor personnel used disinfectants that we verified were EPA-approved for use against

COVID-19 and wore PPE when disinfecting affected areas. Following the CDC's disinfecting procedures lowers the risk of infection through contaminated surfaces in DoD workspaces. While we believe that the implemented disinfecting procedures provided reasonable assurance that DoD

and DoD contractor personnel at the selected DoD installations complied with CDC guidance, these disinfecting procedures do not eliminate the risk of infection through contaminated surfaces and individuals may still be exposed to the virus that causes COVID-19.

Disinfecting procedures do not eliminate the risk of infection through contaminated surfaces and individuals may still be exposed to the virus that causes COVID-19.

Appendix

Scope and Methodology

We conducted this performance audit from May 2020 through November 2020 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

We interviewed officials at the OUSD(P&R) and the Office of the Assistant Secretary of Defense for Health Affairs to understand the DoD policies and procedures for disinfecting areas that were previously occupied by individuals who tested positive for COVID-19.

We obtained a list of the positive COVID-19 cases that were reported by the Military Services to the Joint Staff COVID-19 Crisis Management Team. In addition, we obtained a list of suspected and positive COVID-19 cases that were reported by DoD agencies and field activities in the National Capital Region to the Pentagon Force Protection Agency. We focused on positive COVID-19 cases that were reported from April 2020 through June 2020, to assess the disinfection of areas that were previously occupied by individuals who tested positive for COVID-19 after the CDC guidance was issued on April 1, 2020. We did not include the DoD agencies and field activities outside of the National Capital Region, because there is no centralized tracking system for those agencies and facilities. If we requested the data from each agency, we would have experienced significant delays in performing this audit.

Based on the data from the Joint Staff COVID-19 Crisis Management Team and the Pentagon Force Protection Agency, we selected a nonstatistical sample of 10 DoD installations to determine whether DoD and DoD contractor personnel disinfected, in accordance with CDC guidance, the areas that were previously occupied by individuals who tested positive for COVID-19. Specifically, we selected two installations from each Military Service and from DoD agencies in the National Capital Region that reported at least 10 instances of an individual testing positive for COVID-19 from April 1, 2020 through June 30, 2020.

However, we excluded:

- military treatment facilities, because they provide medical care to patients with COVID-19;

- military vessels, because the DoD Office of Inspector General (OIG) announced a project that evaluates whether the Navy implemented policies and procedures to prevent and mitigate the spread of COVID-19 on ships and submarines; and
- DoD intelligence community agencies, because the nontraditional circumstances of the ongoing pandemic prevented the team from accessing the classified COVID-19 case data of the intelligence community agencies.

We then interviewed officials at the 10 DoD installations to understand their policies and procedures for disinfecting affected areas. In addition, for each of the 10 DoD installations, we reviewed documentation related to:

- Service, agency, and installation policies and procedures for disinfecting affected areas;
- the process for disinfecting affected areas;
- contracts awarded or modified for disinfecting affected areas; and
- the oversight from DoD personnel to ensure that disinfection procedures complied with CDC guidance.

While conducting our interviews, we determined that none of the individuals who tested positive for COVID-19 at the Navy installations we reviewed entered their workspace and those installations did not have cases for us to include in our review.

(FOUO) We used the list of positive cases from the Joint Staff COVID-19 Crisis Management Team and the Pentagon Force Protection Agency to select a nonstatistical sample of positive COVID-19 cases that required disinfection services at each of the selected DoD installations. Specifically, for the Military Services, we randomized the total number of cases at each installation and asked the DoD officials at each installation to select from the list three positive COVID-19 cases that required workspaces to be disinfected. For the DoD agencies and field activities, we randomized the total number of cases at each installation, then selected one positive COVID-19 case that required disinfection from April 2020, May 2020, and June 2020. Furthermore, we selected two additional positive COVID-19 cases that accessed the Pentagon within four days of testing positive for COVID-19, resulting in a nonstatistical sample of 21 out of [REDACTED] positive COVID-19 cases that we reviewed across the eight installations we reviewed.

DoD officials from the following five DoD installations stated that one or more of the positive COVID-19 cases from the list we provided them did not require disinfection of affected areas.

- DoD officials at the Mid-Atlantic Regional Maintenance Center stated that none of the positive COVID-19 cases we provided required disinfection services because the individuals who tested positive for COVID-19 had teleworked and did not enter or occupy the facility.
- DoD officials at the Strategic Weapons Facility, Pacific, stated that only one case required disinfection services in March 2020. However, we did not assess whether DoD officials at the Strategic Weapons Facility, Pacific, disinfected the areas that were occupied by the individual that tested positive for COVID-19 in March 2020, because we focused on positive COVID-19 cases that required disinfection services from April 2020 through June 2020.
- DoD officials at MCAS Yuma stated that only 2 cases from the list of positive COVID-19 cases we provided required disinfection services because the individual that tested positive for COVID-19 did not occupy installation facilities within 7 days of testing positive for COVID-19 or the facilities were vacated for 7 days after the individuals who tested positive for COVID-19 had occupied the facilities.
- DoD officials at the Mark Center and Pentagon stated that 2 of the 3 cases at the Mark Center, and 2 out of 6 cases at the Pentagon did not require disinfection services because the individuals who tested positive for COVID-19 did not access the Pentagon or Mark Center within 7 days of testing positive for COVID-19.

For each of the positive COVID-19 cases in our sample, we requested and reviewed available documentation to verify that DoD officials complied with CDC guidelines for disinfection. Examples of documentation we reviewed included:

- lab results and COVID-19 rapid-test results, which support when the individual tested positive for COVID-19;
- invoices and receipts for disinfection services that support that the disinfection of affected areas took place;
- emails and diagrams of buildings, which documented the identification of affected areas;
- timesheets, access logs, and emails, which documented when the individual that tested positive for COVID-19 last accessed the affected areas;

- photographs of products that were used, which support that DoD officials disinfected areas using EPA-approved disinfectants; and
- receipts and photographs, which support that DoD officials used proper PPE when disinfecting affected areas.

Use of Computer-Processed Data

We did not rely on computer-processed data to support our audit conclusions. However, we used computer-processed data provided by the Pentagon Force Protection Agency and Fort Bragg officials to determine the number of individuals who tested positive for COVID-19 at each DoD installation in our nonstatistical sample. Specifically, we obtained data from the Pentagon Force Protection Agency's web-based emergency operations center program and DoD Disease Reporting System internet. The web based emergency operations center program is a commercial platform that is widely used by the government's emergency management community for reporting and tracking purposes. The DoD Disease Reporting System internet is the primary system of record for all cases of COVID-19 in the Army population. We used data from both systems to identify a nonstatistical sample of up to three positive COVID-19 cases that required disinfection. Once we identified our nonstatistical sample from the provided data, we determined that the data was sufficient and reliable for the purpose of this report.

Use of Technical Assistance

We consulted with the DoD OIG Quantitative Methods Division to select nonstatistical samples of DoD installations and positive COVID-19 cases that required disinfection services.

Prior Coverage

During the last 5 years, the General Services Administration (GSA) OIG and the Department of Health and Human Services (HHS) OIG each issued one report discussing challenges in disinfecting areas that were previously occupied by individuals who tested positive for COVID-19.

GSA

GSA OIG, "Alert Memorandum: Concerns Regarding Public Buildings Service's Communication and Cleaning Procedures for Coronavirus Disease 2019 (COVID-19) Exposures," September 3, 2020

This memorandum notified Public Buildings Service officials of risks that may lead to increased exposure to and transmission of COVID-19. Specifically, GSA OIG officials identified that the Public Buildings Service officials did not always receive timely notice of COVID-19 incidents from building occupants and did not always provide timely notification of COVID-19 cases. In addition, Public Buildings Service officials did not have a standard inspection process for COVID-19 cleaning and disinfection services, leaving Public Buildings Service officials without the assurance that contractors cleaned and disinfected spaces in accordance with internal and CDC guidance.

HHS

HHS OIG, "Hospital Experiences Responding to the COVID-19 Pandemic: Results of a National Pulse Survey March 23-27, 2020," April 3, 2020

This review provided the HHS and other decision makers with a national snapshot of hospitals' challenges and needs in responding to the COVID-19 pandemic. Specifically, HHS OIG officials identified that hospitals faced shortages of disinfectants and cleaning supplies. The report stated that one hospital was unable to buy disinfectant cleaning supplies and did not know when supplies would be available. The report further stated that another hospital made disinfectants, such as bleach, out of on-hand chemicals such as chlorine.

Acronyms and Abbreviations

AFB	Air Force Base
CDC	Centers for Disease Control and Prevention
COVID-19	Coronavirus Disease–2019
EPA	U.S. Environmental Protection Agency
GSA	U.S. General Services Administration
HHS	U.S. Department of Health and Human Services
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
OIG	Office of Inspector General
OUSDP(P&R)	Office of the Under Secretary of Defense for Personnel and Readiness
PPE	Personal Protective Equipment



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