The Honorable Mike D. Rogers
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

NOV 1 3 2023

Dear Mr. Chairman:

The Department's response to House Report 117–397, page 203, accompanying H.R. 7900, the National Defense Authorization Act for Fiscal Year 2023, "Report on the Effects of Long COVID on the Readiness and Retention of Servicemembers," is enclosed.

The report provides a summary of the Department of Defense's (DoD) preliminary analysis, which indicates there is no current impact on readiness and retention. The DoD is currently engaged in research on coronavirus disease 2019 (COVID-19) and long COVID, which includes epidemiologic studies as well as the examination of clinical outcomes, including long COVID and long COVID symptoms research. Further, the Department is committed to providing the full spectrum of COVID-19 services to Service members.

Thank you for your continued strong support for the health and well-being of our Service members. I am sending similar letters to the other congressional defense committees.

Sincerely,

Ashish S. Vazirani
Acting

Enclosure:
As stated

cc:
The Honorable Adam Smith
Ranking Member

PERSONNEL AND
READINESS

NOV 1 3 2023

The Honorable Jack Reed
Chairman
Committee on Armed Services
United States Senate
Washington, DC 20510

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Thank you for your continued strong support for the health and well-being of our Service
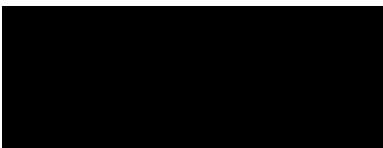members. I am sending similar letters to the other congressional defense committees.

Sincerely,

Ashish S. Vazirani
Acting

Enclosure:
As stated

cc:
The Honorable Roger F. Wicker
Ranking Member

**PERSONNEL AND
READINESS**

The Honorable Kay Granger
Chairwoman
Committee on Appropriations
U.S. House of Representatives
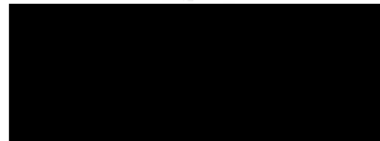Washington, DC 20515

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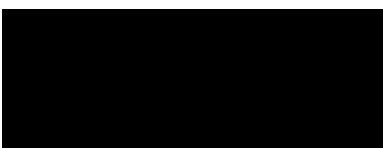members. I am sending similar letters to the other congressional defense committees.

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Acting

Enclosure:
As stated

cc:
The Honorable Rosa L. DeLauro
Ranking Member

The Honorable Patty Murray
Chair
Committee on Appropriations
United States Senate
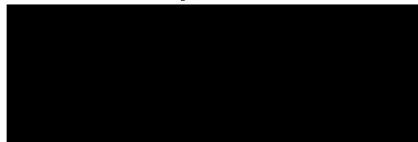Washington, DC 20510

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Sincerely,

Ashish S. Vazirani
Acting

Enclosure:
As stated

cc:
The Honorable Susan Collins
Vice Chair

Report to the Congressional Defense Committees

Report on the Effects of Long COVID on the Readiness and Retention of Servicemembers

November 2023

EXECUTIVE SUMMARY

This report is in response to House Report 117–397, page 203, accompanying H.R. 7900, the National Defense Authorization Act for Fiscal Year 2023, which requests that the Secretary of Defense submit a report regarding the effects of long COVID on the readiness and retention of Service members. Specifically, the report requests information on any ongoing research conducted on long COVID, how the Department is treating the symptoms related to long COVID, and a strategy on how the Department plans to care for Service members who are affected by long COVID moving forward.

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. COVID-19 symptoms vary in severity, ranging from no symptoms (asymptomatic) to critical illness. Long COVID is distinct from initial COVID-19 infection, where symptoms continue even after the COVID infection is resolved, and it is possible to develop long COVID without recognizing the initial COVID-19 infection. Current research indicates that long COVID is more likely to occur after a severe COVID-19 infection and risk of long COVID is higher for individuals not vaccinated for COVID-19 prior to infection.

Currently, data to assess the impact of readiness and retention via duty status or separations is limited. Preliminary data, assessing readiness and retention through separations, indicates that long COVID does not impact readiness or retention, as overall active duty Service member (ADSM) separations decreased from 2019 to 2021. Further, preliminary assessments of medically separated individuals indicated an insignificant number of medically separated individuals had a history of long COVID.

The Department of Defense (DoD) is currently engaging in research efforts associated with COVID-19 and long COVID. Research includes epidemiologic studies as well as the examination of clinical outcomes, including long COVID and long COVID symptoms. Considerations for ongoing DoD research include clinical research studies and protocols associated with COVID-19 and long COVID, effects on vaccinated and unvaccinated individuals, and physiologic effects (e.g., lung function, cardiovascular impairment) in response to COVID-19 infection and long COVID symptoms.

The DoD is committed to providing the full spectrum of COVID-19 services to ADSMs. The DoD follows and will continue to follow standard of care and evidence-based practices with a strategy that focuses on supportive treatment.

INTRODUCTION

COVID-19 is an infectious disease caused by the SARS-CoV-2 virus. COVID-19 symptoms vary in severity, ranging from no symptoms (asymptomatic) to critical illness. Most individuals infected with COVID-19 experience mild to moderate illness and recover without requiring special treatment. Resolution of symptoms also varies and can range from resolving within a few days to resolving within a few weeks.

Long COVID is distinct from an initial COVID-19 infection and is "broadly defined" by the Department of Health and Human Services, in collaboration with the Centers for Disease Control and Prevention, "as signs, symptoms, and conditions that continue or develop after acute COVID-19 infection" (CDC 2023, COVID.gov 2023). In short, symptoms continue even after the COVID infection is resolved. Long COVID is typically identified in individuals experiencing symptoms at least 4 weeks after COVID-19 infection. Individuals may experience lingering COVID symptoms while others, who seem to recover, have their symptoms return or develop new symptoms within a few months. Symptoms of long COVID vary widely and include fatigue, fever, difficulty breathing or shortness of breath, cough, chest pain, heart palpitations, headaches, dizziness, issues with sleeping, change in smell or taste, depression or anxiety, diarrhea, stomach pains, joint or muscle pain, rash, changes in menstrual cycles, and these symptoms worsen after physical or mental exertion.

Although research indicates that long COVID is more likely to occur after a severe COVID-19 infection, it is possible to develop long COVID without recognizing the initial COVID-19 infection (CDC 2023). In addition, risk of long COVID is higher for individuals not vaccinated for COVID-19 prior to infection (CDC 2023). Currently, there is no test to determine if symptoms are specific for the long COVID condition, but research to better understand COVID and risk of long COVID is ongoing.

DoD is committed to providing the full spectrum of COVID services to its Service members. The DoD provides treatment and care to Service members that have a prolonged recovery with persistent long-COVID symptoms across all military medical treatment facilities (MTFs). Service members with sustained symptoms are advised for regular follow up to care by their primary care provider with subspecialty referrals as needed to evaluate suspected specific medical conditions.

LONG COVID IMPACT ON READINESS AND RETENTION

Given the recency of the end of the Federal Government's COVID-19 public health emergency declaration (May 11, 2023), the absence of long-term data, the wide range of new, returning, or ongoing symptoms, and the length of time for long COVID to affect an individual or population, it may be some time before the impact on readiness and retention can be accurately assessed.

"Readiness" can be defined as the ability to engage and fulfill assigned missions and tasks (DoD 2022). Military readiness can be impacted by the ability of an individual to be retained, the rate at which military personnel remain in the military after their obligated term of service. With respect to long COVID, readiness and retention is impacted if Service members are unable to perform their duties, are assigned Disability Evaluation System (DES) status, or are separated because of long COVID symptoms.

Long COVID is treated as any other condition. Service members experiencing long COVID symptoms can be placed on medically restricted duty (e.g., light duty or limited duty) or referred to the Medical Evaluation Board/DES for determination of being fit for continued service. Currently, data to assess the impact of readiness and retention via duty status or separations is limited.

3

Preliminary assessments evaluated readiness and retention through available separation trends before and during the pandemic. This data did not indicate an impact on readiness or retention by long COVID. ADSMs account for approximately 1.3 million beneficiaries and each year an estimated 200,000 Service members separate from service. The DoD Demographics Report: Profile of the Military Community reported 164,775 ADSM separations in 2019, 157,548 ADSM separations in 2020, and 156,689 separations in 2021, indicating no significant increase in the number of separations pre-COVID or through the COVID pandemic (DoD 2022, DoD 2021, DoD 2020).

Preliminary assessments of medically separated individuals indicated an insignificant number with a history of long COVID. This preliminary data is not surprising. As indicated above, long COVID symptoms are associated with vaccination status and severity of COVID-19 infection. Through force health protection efforts, the military population exhibited high rates of vaccination, protecting against COVID-19 and severe cases of COVID-19, and potentially reducing the effects of long COVID.

ONGOING LONG COVID RESEARCH

The DoD is currently engaging in research efforts associated with COVID-19 and long COVID. Research includes epidemiologic studies as well as the examination of clinical outcomes, including long COVID and long COVID symptoms. More specifically, the Uniformed Services University of the Health Sciences (USUHS), is engaging in ongoing research efforts aimed at furthering the scientific understanding of COVID-19 and long COVID.

USUHS conducted the Epidemiology, Immunology, and Clinical Characteristics of emerging infections study (EPICC), which included an active 12-month follow-up of Military Health System (MHS) beneficiaries. The study comprised of 1,832 adult MHS beneficiaries. Results indicated that risk of reporting symptoms for 28 days or more following onset of COVID-19 was significantly higher in participants who were experienced moderate to severe symptoms and were unvaccinated at the time of infection (Richard, et al., 2023). EPICC continues to use machine-learning-based phenotypes of post-acute sequelae of COVID-19 as a basis to better understand the pathogenesis, treatment, and prevention of long COVID.

The EPICC study generated further insights into post-COVID-19 cardiorespiratory health outcomes, with prospective pulmonary function tests and chest imaging analyzed in adults with and without persistent respiratory symptoms. The study noted that the 6-minute walk test and Borg scores correlated with persistent respiratory symptoms, which may serve as important endpoints in interventional studies. No echocardiogram or electrocardiogram changes were identified to explain persistent dyspnea in MHS beneficiaries. Finally, the EPICC team continued to work on a strategy to merge EPICC data with a VA COVID-19 cohort (EPIC3) to cross validate patterns and predictors of long COVID.

USUHS ongoing biomarker analysis data is assessing the ability of early inflammation (IL-6, CRP) to predict the development of particular long COVID phenotypes at 6 months, adjusting for confounders, using regression models with an outcome of machine learning based long COVID phenotypes (Epsi, et al 2023). Mechanistic long COVID biomarker work is in progress, including autoimmune markers, microRNA, and transcriptomic profiling (including

mitochondrial pathways), which identified several host gene expression profiles that may predict and explain long COVID.

An app-based cognitive assessment module (BRACE) tested whether subjective cognitive impairments correlate with objective impairment in cognition. First time point analysis indicated that a relatively young group of MHS beneficiaries with a history of generally mild COVID-19 infection did not demonstrate a higher prevalence of objectively measured cognitive impairment compared to participants without infection after adjusting for demographic variables.

USUHS is continuing research, including studies associated with the "COronaVIrus surviVAl (COVIVA)" study. Briefly, this effort aims to close gaps in knowledge in pathogensis and clinical care associated with COVID-19. This includes studies on individuals experiencing COVID-19 symptoms 12 or more weeks after infection.

Further, the USUHS Pediatric Department, Divisions of Pediatric Health Systems Research, and Clinical Epidemiology are using high dimensional healthcare data to explore post-COVID medical conditions that may not have been previously or clinically linked to COVID. In collaboration with the Joint Trauma System COVID-19 registry, USUHS initiated the "Military COVID- 19 Registry Analysis Project," which will address the incidence, associated factors, and outcomes of post-acute sequelae following diagnosed and documented COVID infections in MHS beneficiaries. The USUHS Pediatrics Department will conduct future research that includes dependent children, dependent spouses, and ADSMs.

Naval Medical Research Command, in collaboration with Mt. Sinai Hospital, is currently executing funded research titled, "COVID-19 Health Action Response for Marines (CHARM) Study Version 2.0: a long-term follow-up of clinical sequelae and immune response." This study uses a well-established cohort of U.S. Marines from the CHARM Study who were previously enrolled in a prospective study of acute SARS-CoV-2 in the early stages of the COVID-19 pandemic during their recruit training. CHARM participants were identified at secondary military training schools and assignments across the United States and at two international sites to complete an interim assessment of COVID-19 and the acute and post-acute symptoms of COVID-19 (PASC, or long COVID). It also aims to evaluate U.S. Marine Corps fitness metrics across participants based on the presence of PASC.

Brooke Army Medical Center (BAMC) is conducting an ongoing study to monitor cardiopulmonary function and exercise performance in military personnel post COVID-19 infection. Additionally, BAMC is conducting investigations to identify if Service members with cardiopulmonary symptoms, who recover from COVID-19 infection or following mRNA COVID-19 vaccination, are capable of returning to full military duty. This study will investigate whether there is an increased risk of sudden cardiac arrest or sudden cardiac death from consequential cardiovascular/cardiopulmonary disease as a result of COVID-19 infection or COVID-19 vaccination. These studies aim to also describe outcomes and identify trends post COVID-19 infection based on pulmonary function testing, lung, cardiac imaging, and other measurements of pulmonary disease during patient evaluation in the BAMC Pulmonary and/or Cardiology Clinic.

TREATMENT OF LONG COVID SYMPTOMS AND STRATEGY FOR CARE

The DoD is committed to providing the full spectrum of COVID-19 services to ADSMs. DoD provides treatment and care to ADSMs who have a prolonged recovery with persistent long COVID symptoms across all MTFs. For patients with sustained symptoms, regular follow up to care should be provided by their primary care provider with subspecialty referrals as needed to evaluate suspected specific medical conditions.

Services, resources, and supports may vary by MTF. Patients concerned about prolonged symptoms or symptoms associated with long-COVID, any non-COVID-19 symptoms, or other health questions may call the MHS Nurse Advice Line (1-800-TRICARE (874-2273), option 1), contact their primary care manager or regional contractor, call the military hospital or clinic hotline for advice, call the military hospital or clinic appointment line and ask to speak with a team nurse, or schedule a virtual appointment with the primary care manager using the patient portal.

Reservists who are not authorized care in a MTF due to not being on orders for greater than 30 days or who do not meet criteria to receive an approved Line of Duty for long COVID should seek follow up care utilizing TRICARE Reserve Select, an employer health plan, or a marketplace plan to receive treatment in the civilian economy.

The Defense Health Agency is coordinating provider resources for the treatment of long COVID, with a strategy that focuses on supportive treatment. The DoD follows and will continue to follow standard of care and evidence-based practices, such as the DoD COVID-19 practice management guide and the Veteran Affairs publication: Whole Health System Approach to Long COVID (DoD 2021, VA 2022).

CONCLUSION

COVID-19 symptoms vary in severity, ranging from no symptoms to critical illness. Long COVID is distinct from initial COVID-19 infection, where symptoms continue even after the COVID infection is resolved. Long COVID is typically identified in individuals experiencing symptoms at least four weeks after COVID-19 infection. Preliminary data indicates there is no current impact on readiness and retention. The DoD is currently engaging in research efforts associated with COVID-19 and long COVID. Research includes epidemiologic studies as well as the examination of clinical outcomes, including long COVID and long COVID symptoms. The DoD is committed to providing the full spectrum of COVID-19 services to ADSMs, including services associated with long COVID. The DoD follows and will continue to follow standard of care and evidence-based practices with a strategy that focuses on supportive treatment.

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