

COVID-19: Mental Health of Aircrew



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SARS-CoV-2 Pandemic



Infected Aircrew



Effects of social and economic impact on aircrew



Aircrew who have been affected by Covid-19 infection



A severe course of COVID-19 is a pan-organ medical condition, with widespread vasculopathies as a common denominator.



Acute Neurological and Neuropsychiatric complications of COVID-19 [Varatharaj et al., Lancet June 2020]

N = 125 complete data sets of COVID-19 in-hospital patients

62% (77) cerebrovascular event:

- 57 ischaemic stroke,
- 9 intracerebral haemorrhage
- 1 CNS vasculitis

18% patients with CV events younger than 60 yrs

Acute Neurological and Neuropsychiatric complications of COVID-19 [Varatharaj et al., Lancet June 2020]

31% (39/125) presented with altered mental status

- 9 unspecified encephalopathy
- 7 encephalitis.
- 23 psychiatric diagnoses - 92% new diagnoses
 - 10 new-onset psychosis
 - 6 neurocognitive (dementia-like) syndrome
 - 4 affective disorder

49% patients with altered mental status younger than 60 yrs

Psychiatric outcomes in SARS, MERS, and COVID-19

- acute psychiatric outcomes (predominantly delirium)
- late psychiatric outcomes (after 4-6 months):
 - new-onset depression,
 - anxiety disorders,
 - PTSS,
 - neuro-cognitive impairment

[Rogers et al., 2020]

Late psychiatric/neuro-cognitive symptoms caused by:

- self-perpetuated immune mechanism (eg, autoimmune),
or
- priming of cellular neuro-immune substrates,
or
- persistence of the virus inside the CNS
(within endothelial cells, resident macrophages) or
monocytes.

[Rogers et al., 2020]

Corona viruses directly invade the CNS via:

Neural pathways:

transport of the virus to the CNS from the nasal cavity and rhinopharynx via the olfactory and trigeminal nerves and from the lower respiratory tract via the vagus nerves

Hematogenous routes:

- leukocytes (monocytes) serving as a vehicle of dissemination into the CNS
- endothelial cells of the blood-brain barrier
- endothelial cells of the blood–cerebrospinal fluid barrier located in the ventricles of the brain

[Postolache, Benros & Brenner, 2020]

“Long Haulers”

Overall, approximately 10% of people who have recovered from COVID-19 experience prolonged symptoms

[Practice Pointer BMJ 2020;370:m3026]

Nicola Davis
Science
correspondent

The Guardian
9 Oct 2020

'Brain fog': the people struggling to think clearly months after Covid

Doctors grapple for answers as more patients report post-coronavirus cognitive impairment

A US colleague: “It feels like COVID has eaten my brain, because I can’t remember how to remember words, keep track of medication”.
“My brain just feels like there’s a fog.”

September 23, 2020

As Their Numbers Grow, COVID-19 “Long Haulers” Stump Experts

Rita Rubin, MA

JAMA. 2020;324(14):1381-1383. doi:10.1001/jama.2020.17709



Fauci noted that in some long haulers symptoms like brain fog and fatigue are “highly suggestive” of myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS).

1500 Long Haulers: symptoms 4-6 months post-infection

- Severe fatigue
- Muscle or body aches, chest pain
- Shortness of breath or difficulty breathing
- Headaches
- Gastrointestinal problems
- Skin rashes
- Metabolic disruption
- Thromboembolic conditions
- Difficulty concentrating
- Neurocognitive difficulties
- Depression and other mental health conditions

Long Haulers: Aeromedical Considerations

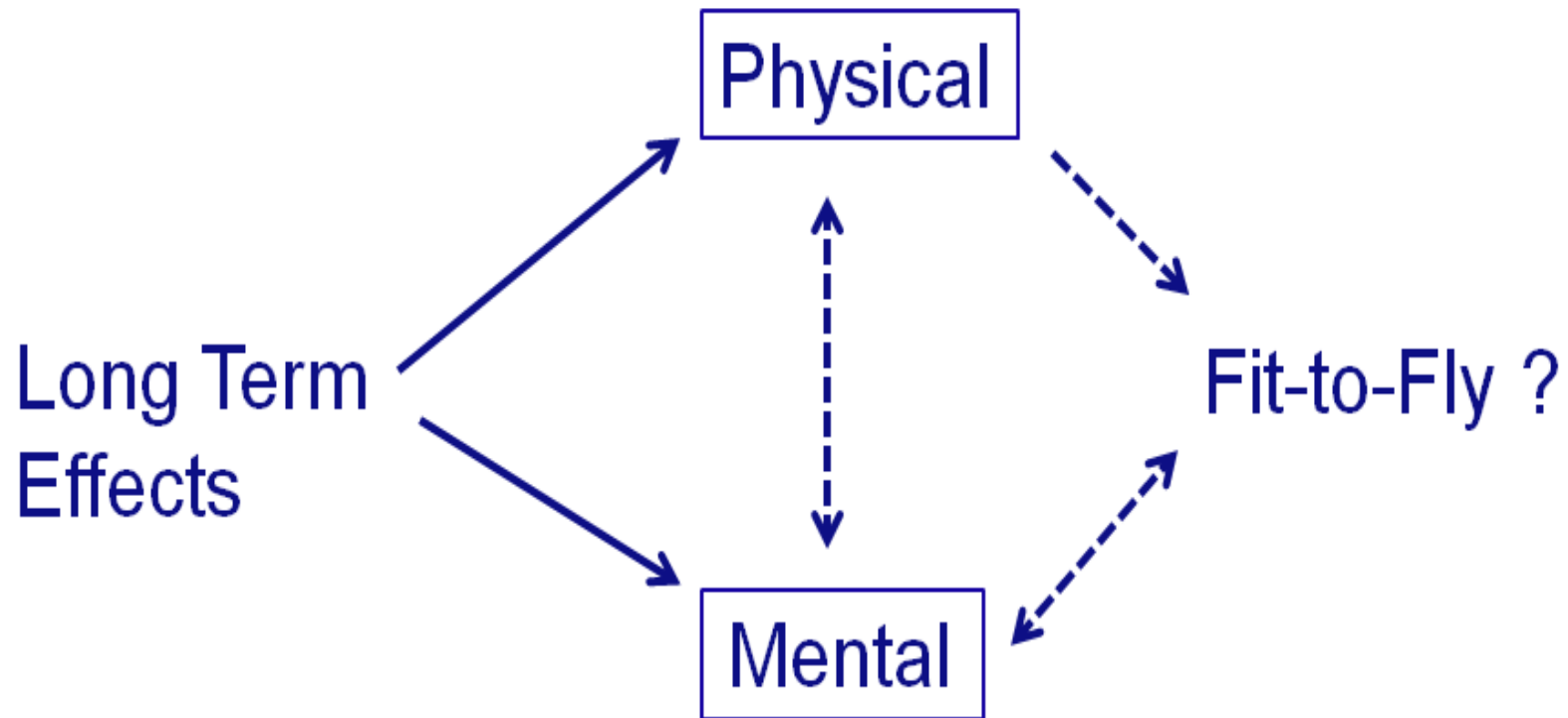
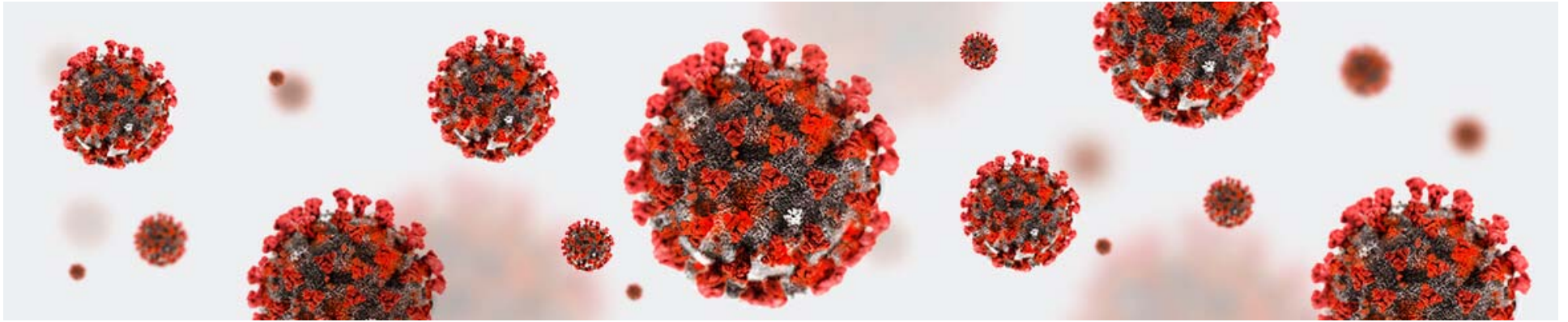
[Sher L. (2020) Acta Neuropsychiatrica 1–1. doi: 10.1017/neu.2020.21]

- COVID-19 survivors should be regarded as individuals at elevated risk for suicide.
- The single most significant predictor of suicide is the presence of depression.
- Recovered COVID-19 patients need to be screened for depression and suicidality.
- Many coronavirus disease survivors will need long-term psychological interventions.

Screening pilots who have recovered of COVID-19

AME's risk assessment should address:

- Difficulty concentrating
- Neurocognitive difficulties
- Depression and other mental health conditions
- Severe fatigue





Aircrew who were not infected but who have suffered from the social and economic consequences of COVID-19



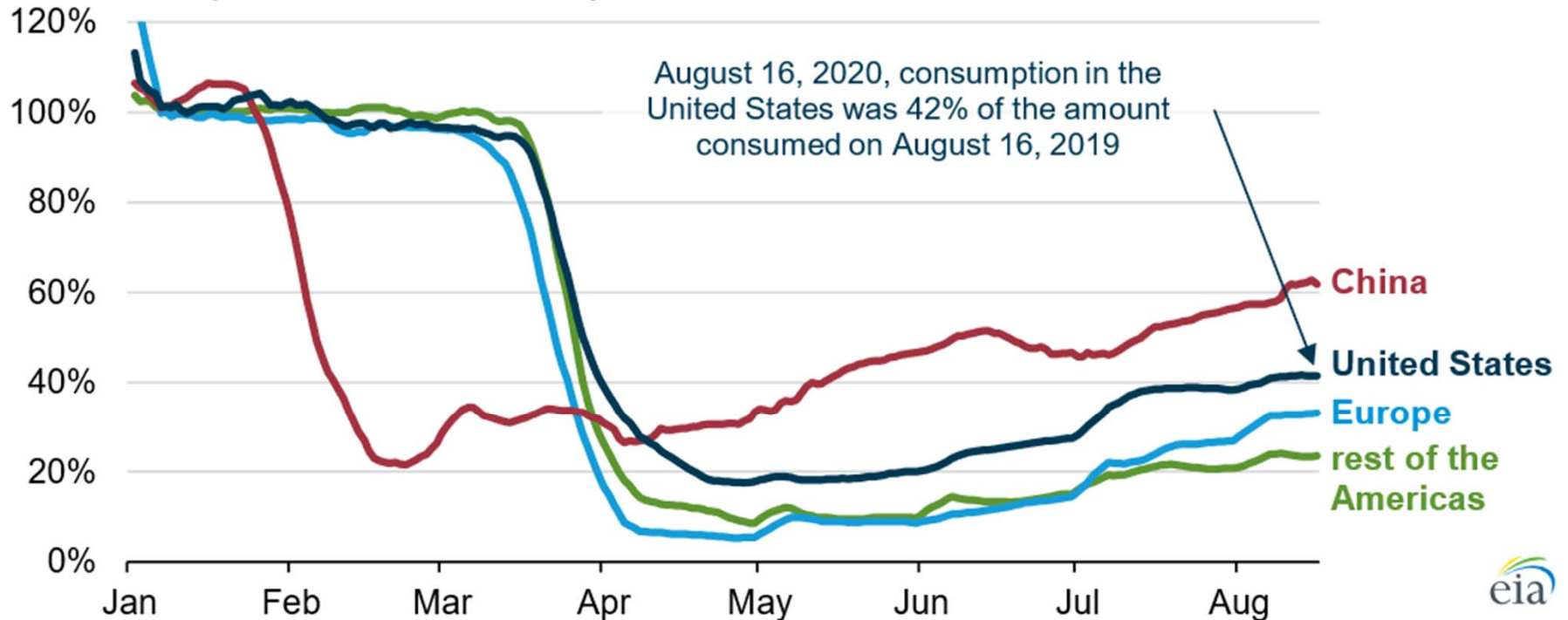
Impact on Flight Safety

Impact on Mental Wellbeing



Ratio of 2020 jet fuel consumption by commercial passenger jets to 2019 consumption, seven-day moving average (January 1, 2020–August 16, 2020)


2020 consumption relative to same day in 2019



Source: U.S. Energy Information Administration, using raw flight data from Cirium

Note: China* inclusive of Hong Kong and Macau; consumption assigned to the region from which each flight departed.





(Stuart Bailey/BA)

**CORONAVIRUS: 36,000 BRITISH
AIRWAYS STAFF TO BE FURLOUGHED IN
WORST-EVER CRISIS FOR MODERN
AVIATION**

Stress due to the isolation and mitigation measures



- Furlough has both positive and negative effects . . .

Furlough: Opportunities to boost family life



Furlough: 'Opportunities' to boost relational problems, family problems, alcohol or substance intake



Furlough: Stress of a long break from flying



“As pilots, most of us have experienced returning to work feeling rusty at some point in our careers, but it never has been more likely that our flight deck colleague may also be rusty”



FTL Temporary exemptions under Article 71(1) of Regulation (EU) 2018/1139 (the Basic Regulation)

Guidelines in relation to the COVID-19 pandemic

E.g. FRA-JFK-FRA with minimal turnaround time using augmented crew

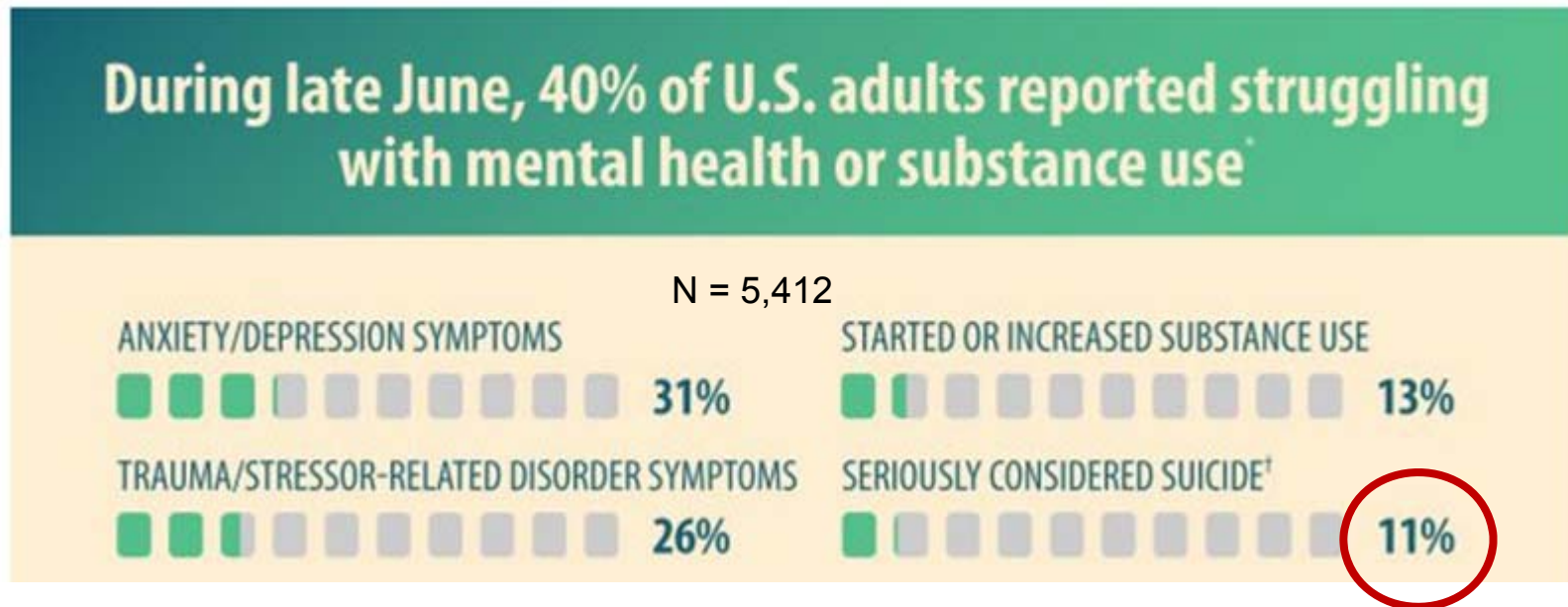


Lack of future perspectives

- Demotivation
- Lethargy
- Depression



CDC Report Reveals “Considerably Elevated” Mental Health Toll from COVID-19 Stresses



[Czeisler et al. Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic — United States, June 24–30, 2020. MMWR Morb Mortal Wkly Rep 2020;69:1049–1057]

Czeisler et al. Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic — United States, June 24–30, 2020. MMWR Morb Mortal Wkly Rep 2020;69:1049–1057]

18-24 yr and 25-44 yr olds had significantly more anxiety/depressive disorder, substance abuse, and suicidal ideation than age categories 45-64 and ≥65

Age group (yrs)	Symptoms of anxiety disorder or depressive disorder [†]	Started or increased substance use to cope with stress or emotions related to COVID-19	Serious consideration of suicide in past 30 days
18–24 vs. 25–44	1.56 (1.44–1.68)**	1.31 (1.12–1.53)**	1.59 (1.35–1.87)**
18–24 vs. 45–64	3.10 (2.79–3.44)**	3.35 (2.75–4.10)**	6.66 (5.15–8.61)**
18–24 vs. ≥65	7.73 (6.19–9.66)**	8.77 (5.95–12.93)**	12.51 (7.88–19.86)**
25–44 vs. 45–64	1.99 (1.79–2.21)**	2.56 (2.14–3.07)**	4.18 (3.26–5.36)**
25–44 vs. ≥65	4.96 (3.97–6.20)**	6.70 (4.59–9.78)**	7.86 (4.98–12.41)**
45–64 vs. ≥65	2.49 (1.98–3.15)**	2.62 (1.76–3.9)**	1.88 (1.14–3.10)

From: **Prevalence of Depression Symptoms in US Adults Before and During the COVID-19 Pandemic**

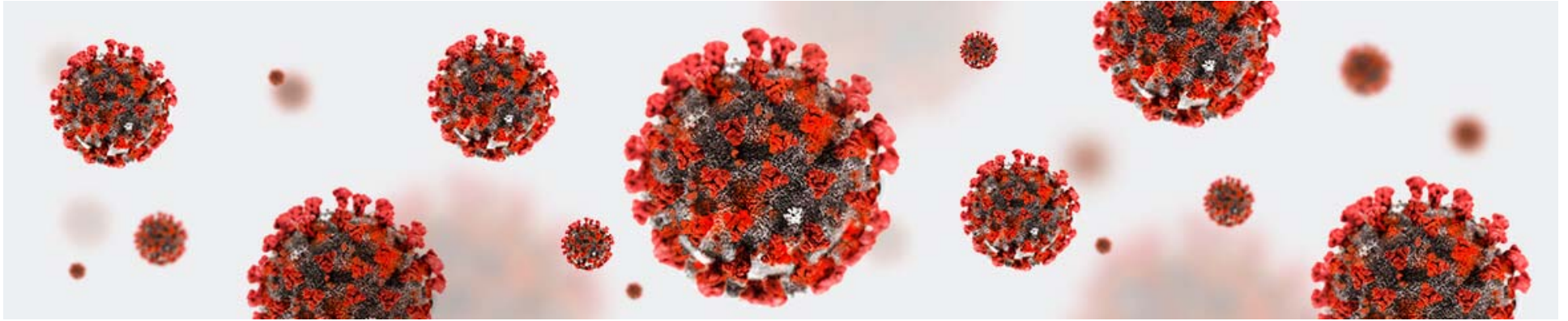
JAMA Netw Open. 2020;3(9):e2019686. doi:10.1001/jamanetworkopen.2020.19686 [Ettman et al., September 2020]

Depression symptom prevalence was > 3-fold higher during the COVID-19 pandemic than before

n=5065 - 2017-2018

n=1441 - March 31 to April 13, 2020

Depression: Patient Health Questionnaire - 9



Moreno et al. Lancet Psychiatry. 2020 Sep; 7(9): 813–824.

‘Preliminary findings suggest adverse mental health effects in previously healthy people and in people with pre-existing mental health disorders’

Online Survey of aviation workers July/August 2020

[Cahill, Cullen et al., 2020]



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Method: validated depression (PHQ 9) & anxiety (GAD 7) scales.

Total 2050 - 1796 completed depression and anxiety scales

Pilot (38%), Cabin Crew (19%), ATC (11%) , Maintenance (8%)

- 51 % of respondents have lost jobs
- 78% indicate a lack of willingness to disclose MH issues to employer



Depression

- moderate	17.7%
- moderately severe	7.4%
- severe	4.5%

Anxiety

- mild	36%
- moderate	12.8%
- severe	11.3%

Caveat! Selection Bias (inevitable)



A Second Wave of COVID-19 may crush newly regained
HOPE and FUTURE PERSPECTIVES


Reduced performance of staff and increased risk in the system

- Fear
- Uncertainty about the situation and future
- Increased stress
- Increased pressures
- Distraction
- Fatigue
- Psychological reasons
- Physiological reasons



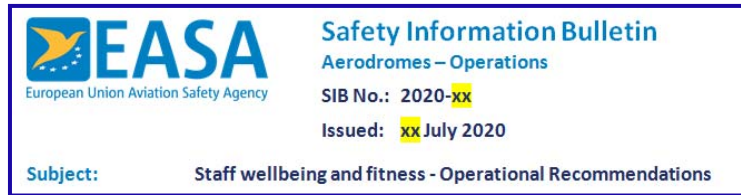
**Guidelines for handling exemptions
to flight crew recent experience requirements
in the field of commercial air transport operations**

There may be a negative impact on the performance of aviation personnel after months of inactivity, and with continued uncertainty about the industry recovery and their jobs.

 European Union Aviation Safety Agency	Safety Information Bulletin Aerodromes – Operations SIB No.: 2020-xx Issued: xx July 2020
Subject:	Staff wellbeing and fitness - Operational Recommendations

Aircraft operators, ANSPs and other stakeholders having employees performing aviation safety sensitive tasks should:

- Whenever needed to make changes in their employment schemes and/or personnel policies, consider in their risk assessments and change management processes the impact of COVID induced stress.
- As a result of their risk assessment they should implement mitigating actions that will ensure that safety is not adversely affected by the potential deterioration of staff's well-being and human performance



- Companies should evaluate previous risks assessments in order to ascertain that the underlying assumptions concerning personnel's stress and well-being are still valid in the current context.
- Ensure access to their employees performing safety critical tasks to support programs and/or counselling
- Support programs should be developed in coordination with appropriate specialist (e.g. aviation psychologists, AMEs) and should refer the hazardous cases to the appropriate specialists and AMEs for assessment of fitness.



Stiftung Mayday



Pilot Peer Support Programmes

The EPPSI Guide

Vol 1: Design and Implementation

2nd Edition – October 2020

www.eppsi.eu



Safety Information Bulletin

Aerodromes – Operations

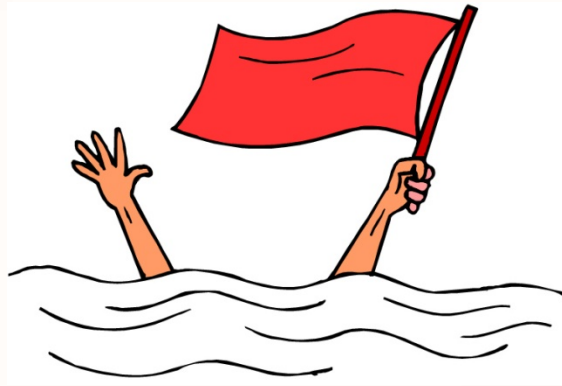
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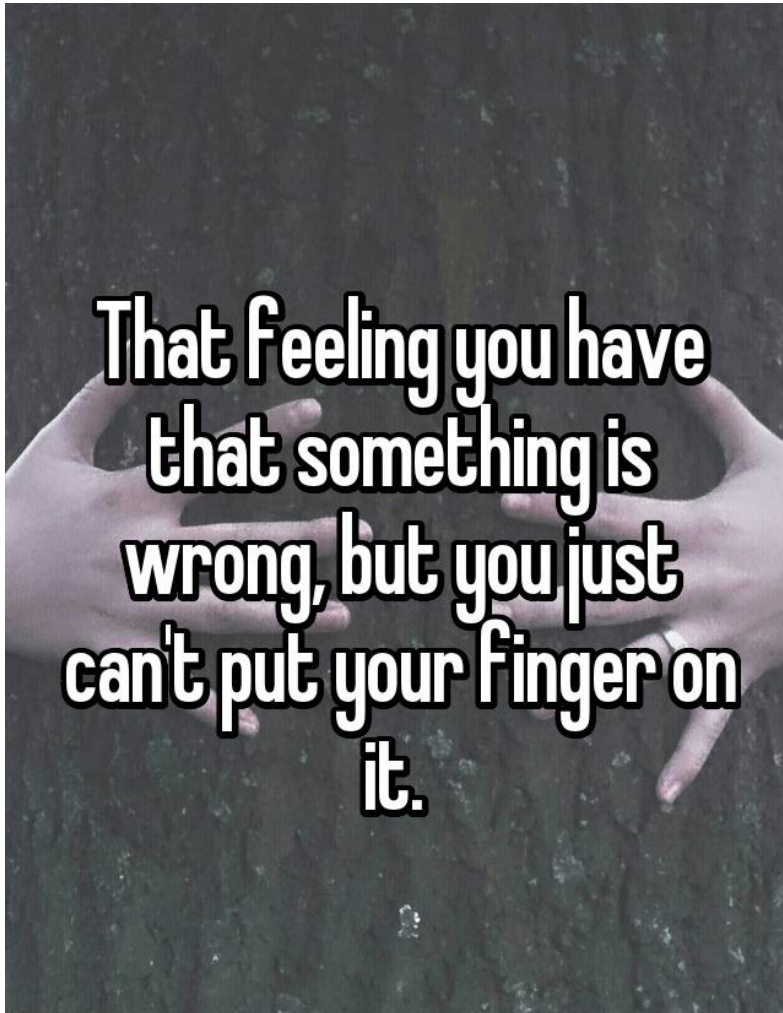
AMEs and AeMCs performing medical examinations to aircrew and ATCOs during the COVID-19 pandemic should pay particular attention during such examinations to mental health and wellbeing issues.



- Suicidal thoughts, intention, plans or acts and / or any form of self harm
- Misuse of alcohol or drugs
- Risky or sensation-seeking behaviours
- Agitation, preoccupation, psychomotor retardation
- Noticeable changes in affect (or flat affect), mood, anxiety and behaviour
- Anhedonia, hopelessness and feelings of despair
- Self neglect
- Harm or threat to others
- Threat or actual harm or abuse from others



[Prof. Robert Bor – Centre for Aviation Psychology]



While a pilot is meeting the aeromedical requirements, the AME might still have doubts about this pilot's mental coping ability or mental endurance

Pilots are reluctant to report Mental / Emotional Issues to AMEs

APPLICATION FORM FOR AN AVIATION MEDICAL CERTIFICATE

Complete this page fully and in block capitals - Refer to instructions pages for details.

	YES	NO
118 Psychological trouble of any sort		X
119 Alcohol/drug/substance abuse		X
120 Attempted Suicide		X

(31) Declaration: I hereby declare that I have carefully considered the statements made above and to the best of my belief they are complete and correct and that I have not withheld any relevant information or made any misleading statements. I understand that if I have made any false or misleading statements in connection with this application, or fail to release the supporting medical information, the Licensing Authority may refuse to grant me a medical certificate or may withdraw any medical certificate granted.

The decision to take the first step in opening up about mental health issues will always be a voluntary choice by the pilot . . .



The whole point of Peer Support Programmes is making that step as easy and safe as possible



FO – age 33 yrs
Interview by AME

- **Employment insecurity**
- **Uncertain about future**
- **Poor appetite and poor sleep**
- **Less pleasure in most activities**



FO – age 33 yrs
Self-referral to PSP via AME

- Employment insecurity
- Uncertain about future

- Marital problems emerging during lock-down

- Difficulty to concentrate



Removed from roster for 4 weeks

Referral to socio-psychological support / marriage counseling

Feedback to MHP, airline's Occup. Health dept. and AME

PSPs: Much needed in times of the Corona pandemic



EASA Regulation 1048/2018 implementation date
delayed by 6 months – due to COVID-19
New implementation date is 14 February 2021

PROBLEMS

Peer support programmes not yet available in all EASA member states

400,000 Cabin Crew and Pilot Jobs Have Already Been Wiped Out by the COVID-19 Pandemic

Who cares for aviation personnel who lost their jobs?

THE CENTRE FOR AVIATION PSYCHOLOGY

The Pilot and the Pandemic

<https://www.speedbirdpan.com/covid-19-helpful-resources>

ICAO SAM Region Advisory Circular "Mental Health of Aeronautical Personnel During The Covid-19 Pandemic".

<https://www.srvsop.aero/site/wp-content/uploads/2020/09/SRV SOP-AC-PEL-67-003-Mental-Health-ENG.pdf>

Thank You !



www.esam.aero

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