



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Another public health catastrophe

The UK Medicines and Healthcare products Regulatory Agency is considering prescription of e-cigarettes on the National Health Service.¹ This consideration heralds the next big revenue stream for big tobacco, whose lobbyists have campaigned for the prescription of e-cigarettes as UK smoking rates dwindle. We absolutely disagree that “doctors, medical leaders and health campaigners welcomed the move”.²

The argument underpinning this volte-face (physicians always shunned so-called big pharma’s attempts at co-optation in the guise of antismoking collaborations³) is that e-cigarettes are safer than conventional cigarettes, an assertion that could prove as harmful as the endorsement of tobacco by physicians between 1920 and 1950. It is universally accepted that cigarette smoking is harmful. Big tobacco eventually had to end its exploitation of misguided medical approval to sell cigarettes to a credulous public. Many doctors (and the public) are falling victim to a campaign built on selective reporting and misleading interpretation of scanty, poor-quality data to secure support for replacing one harmful mass addiction with another.

The immediate toxic effects of e-cigarettes far outweigh those of conventional cigarettes,⁴⁻⁶ so how can we assert that they are safer in the long term? As with any medicinal product, it is up to the manufacturer to prove that they are safe, not for doctors to prove that they are harmful.

There is no robust evidence that e-cigarettes accelerate smoking cessation; e-cigarettes should be properly compared with existing methods of quitting smoking. The single study⁷ cited by Public Health England suggesting the benefit of e-cigarettes showed that, after 1 year, smokers using conventional nicotine replacement had quit smoking, whereas those using e-cigarettes were still using

these devices, essentially exchanging one form of nicotine addiction for another, thus guaranteeing continued income for big tobacco. Many e-cigarette users also used tobacco—the dream scenario for manufacturers.

The suggestion that e-cigarettes are a benign alternative will encourage smokers aiming to quit to take up vaping in preference to conventional nicotine replacement. Nicotine addiction will therefore not diminish. There is rising use of vaping among children and young people globally. This rise represents a ticking public health time bomb, is a threat to decades of fighting smoking, and is the next big income generator for the tobacco industry. Rather than promote e-cigarettes, policy makers should treat vaping as equivalent to conventional tobacco: plain packaging, prohibition of flavourings and advertising, and inclusion of graphic health warnings. The UK has a proud track record in smoking cessation, which should not be tarnished by tacit promotion of this latest incarnation of an old addiction.

The views of Public Health England are contradicted by the rest of the world. WHO, Forum of International Respiratory Societies, American Thoracic Society, European Academy of Paediatrics, and American Academy of Pediatrics have all recognised the dangers of e-cigarettes, resulting in a unanimous call for tougher regulation in line with that applied to conventional cigarettes.

We must heed past lessons and prevent the delivery of a repurposed old addiction to an unsuspecting public. Unless they take heed of this warning, Public Health England, fresh from presiding over the biggest public health disaster in UK history, are now about to preside over an even bigger one.

JV is a member of the Danish Medical Association Council for Prevention; is an advocate for restrictions in access to tobacco and alternative nicotine products; and is an active member in the European Respiratory Society leadership in promoting advocacy about the dangers of tobacco smoking and nicotine addiction. SB, CN, AB, WL, CP, and ST declare no competing interests.

*Sarah Brown, Chinedu Nwokoro, Andrew Bush, Warren Lenney, Jorgen Vestbo, Caroline Pao, Surendran Thavagnanam
sarah.brown130@nhs.net

Department of Paediatric Respiratory Medicine, Barts Health NHS Trust, Royal London Hospital, London, E1 1FR, UK (SB, CN, CP, ST); Royal Brompton Hospital, London, UK (AB); Department of Paediatric Respiratory Medicine, National Heart & Lung Institute, London, UK (AB); Paediatric Child Health, Keele University, Keele, UK (WL); Division of Infection, Immunity and Respiratory Medicine, NIHR Manchester Biomedical Research Centre, Manchester, UK (JV)

- 1 Medicines and Healthcare Products Regulatory Agency. Guidance for licensing electronic cigarettes and other inhaled nicotine-containing products as medicines. Oct 29, 2021. <https://www.gov.uk/guidance/licensing-procedure-for-electronic-cigarettes-as-medicines> (accessed Oct 29, 2021).
- 2 Gregory A. Regulator paves way for NHS e-cigarette prescriptions in England. Oct 29, 2021. <https://www.theguardian.com/society/2021/oct/29/regulator-paves-way-for-nhs-e-cigarette-prescriptions-in-england> (accessed Oct 29, 2021).
- 3 WHO Convention on Tobacco Control. The tobacco epidemic has not gone away. Nov 1, 2021. <https://fctc.who.int/newsroom/news/item/01-11-2021-the-tobacco-epidemic-has-not-gone-away> (accessed Nov 2, 2021).
- 4 Landman ST, Dhaliwal I, Mackenzie CA, Martinu T, Steele A, Bosma KJ. Life-threatening bronchiolitis related to electronic cigarette use in a Canadian youth. *CMAJ* 2019; **191**: e1321–31.
- 5 Nair N, Hurley M, Gates S, et al. Life-threatening hypersensitivity pneumonitis secondary to e-cigarettes. *Arch Dis Child* 2020; **105**: 1114–16.
- 6 O’Carroll O, Sharma K, Fabre A, Murphy DJ, Keane MP, McCarthy C. Vaping-associated lung injury. *Thorax* 2020; **75**: 706–07.
- 7 Hajek P, Phillips-Waller A, Przulj D, et al. A randomized trial of e-cigarettes versus nicotine-replacement therapy. *N Engl J Med* 2019; **380**: 629–37.

Mental and physical exhaustion of health-care practitioners

Health-care workers are experiencing mental and physical exhaustion after coping with 18 months of the COVID-19 pandemic. Many dedicated staff members are retiring from the field and leaving their jobs. This occurrence is now widespread. A recent study by The Physicians Foundation found that doctors were heavily affected by the COVID-19 pandemic: 61% reported often experiencing feelings of burnout;



Alfredo Estrada/AFP/Getty Images

Submissions should be made via our electronic submission system at <http://ees.elsevier.com/thelancet/>

57% had experienced inappropriate feelings of anger, tearfulness, or anxiety; 46% had isolated themselves from others; and more than 55% know of a physician who has either considered, attempted, or died by suicide.¹ Despite the high incidence of mental health symptoms, only 14% of doctors sought medical attention. Similarly, a study by the International Council of Nurses showed that rates of burnout among nurses globally rose as high as 80% during the pandemic.²

The emotional, physical, and mental exhaustion of health-care workers need to be urgently addressed. The standard responses to burnout are not working. For one reason, health-care practitioners do not have paid time put aside for them to practise self-care. In our self-care experience, many practitioners say they do not have the time to practise spirituality, meditate, walk in nature, or spend valuable moments with their families. Providing a safe, nourishing, and restorative healing environment for human beings has to be given priority over finances, efficiency, and productivity if caregiving professionals are to avoid allostatic overload and severe burnout with mental anguish and exhaustion (which leads to abandonment of the vocation).³ The moral injury inflicted by the business-oriented medical systems of today needs to be mitigated in the context of the added moral injury imposed by the burden of crisis judgments now pummeling clinicians who care for patients with COVID-19.

The fear and uncertainty created by SARS-CoV-2 in our patients and the public is overwhelming and has spread through all sectors of society. Within this stressful environment, a person's ancient fear and uncertainty processing centre, comprising limbic amygdalae, responds to pandemic stress with conditioned emotional responses predicated on activation of brainstem stress systems, which in turn activate the sympathetic nervous system and the innate immune response.⁴ If the current reality continues unabated, our

brains will move away from a state of alert safety and high performance aided by a well-resourced prefrontal cortex to a state of amygdala-dominated distress, which will usher in an increased vulnerability to burnout and to many stress-related non-communicable diseases, including depression.

To address this crisis, we recommend a series of actions: strictly allocated brief patient visits need to be eliminated;⁵ medical teams need to be immediately assembled and fully supported; health-care practitioners should be provided biweekly or monthly Balint groups to discuss the most difficult clinician-patient relationships with colleagues in a safe empathic setting;⁶ time for one of the web-based or in-person stress management and resilience training programmes should be allocated for front-line clinicians;⁷ and mindful movement and the so-called laying on of hands should be encouraged—eg, based on the emerging model of interoception, health-care practitioners might benefit from allocated time for a paid experience of mindful exercise, physical therapy (for moderate-severe body pain), or massage.⁸

Our health-care practitioners are a treasure; we must assure that their health and wellbeing become a top priority alongside the health of our patients.

We declare no competing interests.

*Richard F Mollica,
Gregory L Fricchione
rmmollica@partners.org

Harvard Program in Refugee Trauma (RFM) and Benson-Henry Institute of Mind-Body Medicine (GLF), Massachusetts General Hospital, Harvard Medical School, Boston, MA 02114, USA

- 1 The Physicians Foundation. 2021 Survey of America's Physicians COVID-19 impact edition: a year later. Aug 4, 2021. <https://physiciansfoundation.org/physician-and-patient-surveys/the-physicians-foundation-2021-physician-survey/> (accessed Nov 28, 2021).
- 2 International Council of Nurses. Mass trauma experienced by the global nursing workforce. <https://www.icn.ch/sites/default/files/inline-files/ICN%20COVID19%20update%20report%20FINAL.pdf> (accessed Nov 28, 2021).
- 3 Peng M, Wang L, Xue Q, et al. Post-COVID-19 epidemic allostatic load among medical and nonmedical workers in China. *Psychother Psychosom* 2021; **90**: 127–36.

- 4 Arnsten AF. Stress weakens prefrontal networks: molecular insults to higher cognition. *Nat Neurosci* 2015; **18**: 1376–85.
- 5 Linzer M, Bitton A, Tu S-P, Plews-Ogan M, Horowitz KR, Schwartz MD. The end of the 15–20 minute primary care visit. *J Gen Intern Med* 2015; **30**: 1584–86.
- 6 Kjeldmand D, Holmström I. Balint groups as a means to increase job satisfaction and prevent burnout among general practitioners. *Ann Fam Med* 2008; **6**: 138–45.
- 7 Park ER, Sylvia LG, Streck JM, et al. Launching a resiliency group program to assist frontline clinicians in meeting the challenges of the COVID-19 pandemic: results of a hospital-based systems trial. *Gen Hosp Psychiatry* 2021; **68**: 111–12.
- 8 Chen WG, Schloesser D, Arensdorf AM, et al. The emerging science of interoception: sensing, integrating, interpreting, and regulating signals within the self. *Trends Neurosci* 2021; **44**: 3–16.

The global oral health workforce

Habib Benzian and colleagues¹ aptly put forth the six key recommendations for the new WHO global strategy for oral health. We take this opportunity to address some key issues that can affect the action plan.

It is a fact that dentists working independently in the private sector alone or in small group practices are a front-line human resource and major determinants in combating the global challenge of oral diseases. However, there is country-wise heterogeneity in the competencies and skills of dentists because of variations in curriculum design, teaching methods, and evaluation processes.² The time has come to bring uniformity and consistency in dental education throughout the world by adopting consensus-based minimum standard requirements at the global level, in line with the WHO Global Strategy on Human Resources for Health campaign.³ The respective dental councils of each country can play a role in designing and implementing such standards by periodic inspections. This move will ensure the quality of graduands and of oral health-care delivery thereon.

Stark and persistent socioeconomic inequalities exist in the prevalence of oral diseases in a consistent and graded manner across social hierarchies.⁴

For more on self-care for health-care practitioners see <https://hprselfcare.org/>