

COVID-19: are not all workers 'essential'?

Sara De Matteis  1,2

During the current COVID-19 pandemic 'essential' workers have been praised daily by the mass media (and even applauded from balconies) as (involuntary) 'heroes' of our society. But who are they? The International Labour Organization has estimated that globally, there are 136 million workers in 'essential' industry sectors such as 'human health and social work' (ie, healthcare, residential care and social workers), emergency and personal services, critical manufacturing, energy, transport, and agriculture.¹ However, an agreed exhaustive definition of 'essential' work is lacking, and maybe it's impossible to achieve.

Regrettably, most of the 'essential' workers have felt let-down by their governments by experiencing a lack of adequate health and safety measures, personal protective equipment (PPE) and occupational injury/disease compensation.² Unsurprisingly, healthcare workers (HCWs), being at the forefront of the COVID-19 fight, have paid the highest price, physically and mentally:³ in Italy, the National Workers' Compensation Authority reported in December 2020 that around 70% of over 100 000 occupational COVID-19 claims were from 'human health and social work' activities, and 60% of the 366 fatal cases occurred among nurses.⁴ These figures, likely an underestimation of the true occupational health burden as they are based on COVID-19 compensation claims only,⁵ have sadly demonstrated that 'essential' was only referred to the work provided by HCWs and not to the workers themselves. Instead, protecting HCWs should be a top priority to not only avoid healthcare systems' collapse, but to also limit the spread of the virus in the community due to the high chance of household infection transmission from HCWs.

However, 'essential' workers are not just HCWs. Many others such as social, transport, food, sales and retail workers⁶ have not stopped working during this

pandemic, and to estimate COVID-19 risk among these job categories as well is key to plan and implement efficient and effective occupational health and safety measures.

The study of Mutambudzi *et al*⁷ aims to address this knowledge gap in the UK Biobank, a population-based cohort with over half a million subjects, by linking data on participants' occupation at recruitment (2006–2010) with SARS-CoV-2 test results from Public Health England (16 March to 26 July 2020). The authors estimated the risk of severe COVID-19 (ie, hospitalised or deceased) for 'essential' workers compared to 'non-essential' workers after adjusting for several potential confounders. Among the sampled 120 000 employees aged 49–64 years, HCWs, as expected, had a more than sevenfold higher risk of severe COVID-19. Interestingly, those working in 'social care and education' and 'transport' occupations had a twofold higher risk, but no higher risk for 'food' workers emerged. Of note, 'essential' workers of Black, Asian and minority ethnic (BAME) backgrounds, compared to white 'non-essential' workers, showed the highest risk with being more than eight times as likely to have severe COVID-19.

This study has the merit of investigating occupational COVID-19 risk beyond the healthcare sector, by using a large population-based sample and adjusting for a broad range of potential confounders, including work-related and lifestyle-related factors. The authors were able to evaluate the role of ethnicity across all sectors. The alarmingly increased risk of severe COVID-19 among workers from BAME backgrounds is even more worrying if we consider that this emerged in an almost 'white' study sample (92%).

Limitations of this study are the subjective definition of 'essential' workers, and the restriction to severe COVID-19 cases that might have introduced a selection bias (eg, severely affected people are on average older). Also, information on both potential confounders and occupations was collected up to 14 years prior to COVID-19 tests, so is potentially subject to misclassification bias. The authors checked job agreements in a small follow-up sample, but they should have

used the available lifetime job histories collected for roughly 120 000 UK Biobank participants⁸ to evaluate job stability over time. This could be of interest considering the high job loss during this pandemic (1% increase in 2020 in the UK)⁹ and that in a recent study in the UK Biobank unemployed subjects showed an increased risk (up to two times) of a positive COVID-19 test.¹⁰ There was no statistical power to analyse COVID-19 risk by gender and within detailed jobs, in particular for 'elementary' occupations (ie, 'blue-collars' in the UK Standard Occupational Classification) where jobs such as waste collectors and cleaners could have been of high interest. This is not surprising, given that the UK Biobank is a voluntary cohort not representative of the UK general population,¹¹ as shown by the low percentage of the non-white population (roughly 5% vs 10% in the UK 2011 census), and with known underrepresentation of 'elementary' occupations^{12 13} which are actually those recently reported as the worst hit by this pandemic in the UK official national statistics.¹⁴ In particular, up to May 2020, among the 4761 COVID-19 deaths in the working population of England and Wales, men in 'elementary' occupations had the highest COVID-19 death rate with 39.7 deaths per 100 000 men.

It is clear that we will never be able to estimate the true occupational health burden of this pandemic until we assess COVID-19 risk in all occupations, especially those that largely employ the invisible 'heroes' of our societies, such as cleaners, waste collectors, food manufacturing processors, and fruit and vegetable pickers.

We need a systematic epidemiological surveillance of work-related risk factors in patients with COVID-19, and we should set up occupational studies in sectors at potentially high risk and ideally international cohort studies of migrant workers to include the most vulnerable and exploited workers of our societies.¹⁵ Intercountry comparisons would also be useful to evaluate how different national governmental policies and health and safety measures have impacted on workers' COVID-19 morbidity and mortality.

Finally, according to the precautionary principle, enhanced protection (eg, higher-level PPE) should be ensured for workers with underlying medical conditions that might increase their vulnerability to COVID-19 even in supposed 'low-risk' occupations such as administrative work.

The COVID-19 pandemic could be an opportunity to raise international attention on the importance of access to

¹Department of Medical Sciences and Public Health, University of Cagliari, Cagliari, Italy

²National Heart and Lung Institute, Imperial College London, London, UK

Correspondence to Dr Sara De Matteis, Department of Medical Sciences and Public Health, University of Cagliari, Cagliari 09124, Italy; sara.dem@unica.it

occupational health, even greater now that it will play a key role in workers' COVID-19 vaccination programmes.

Safe work is a core aspect of decent work, so it should be universally guaranteed. We need to protect all workers and treat them all as 'essential' as all human beings are.

Acknowledgements The author thanks Professor Hans Kromhout, Dr Geoffrey M Calvert and Professor Peter Smith for their helpful comments and suggestions.

Contributors The author conceptualised the idea and drafted this editorial.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Commissioned; internally peer reviewed.

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To cite De Matteis S. *Occup Environ Med* 2021;**78**:305–306.

Received 16 December 2020

Revised 20 January 2021
Accepted 4 February 2021
Published Online First 1 April 2021



► <http://dx.doi.org/10.1136/oemed-2020-106731>

Occup Environ Med 2021;**78**:305–306.
doi:10.1136/oemed-2020-107272

ORCID iD

Sara De Matteis <http://orcid.org/0000-0001-8256-2661>

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