

Suicidal thoughts and
behaviour among healthcare
workers in England during the
COVID-19 pandemic: a
longitudinal study

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Dr Danielle Lamb
on behalf of the NHS CHECK team

Suicidal thoughts and behaviour among healthcare workers in England during the COVID-19 pandemic: A longitudinal study

Prianka Padmanathan, Danielle Lamb, Hannah Scott, Sharon Stevelink, Neil Greenberg, Matthew Hotopf, Richard Morriss, Rosalind Raine, Anne Marie Rafferty, Ira Madan, Sarah Dorrington, Simon Wessely, Paul Moran

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Abstract

Background

During the COVID-19 pandemic, concern has been raised about suicide risk among healthcare workers (HCWs). We investigated the incidence risk and prevalence of suicidal thoughts and behaviour (STB), and their relationship with occupational risk factors, among National Health Service HCWs in England between April 2020 and August 2021.

Methods

In this longitudinal study, we analysed online survey data completed by 22,501 HCWs from 17 NHS Trusts at baseline (Time 1) and six months (Time 2). The primary outcome measures were suicidal ideation, suicide attempts, and non-suicidal self-injury. We used logistic regression to investigate the relationship between these outcomes and demographic characteristics and occupational factors. Results were stratified by occupational role (clinical/non-clinical).

Results

Time 1 and Time 2 surveys were completed by 12,514 and 7,160 HCWs, respectively. At baseline, 10.8% (95% CI = 10.1%, 11.6%) of participants reported having experienced suicidal thoughts in the previous two months, whilst 2.1% (95% CI = 1.8%, 2.5%) of participants reported having attempted suicide over the same period. Among HCWs who had not experienced suicidal thoughts at baseline (and who completed the Time 2 survey), 11.3% (95%CI = 10.4%, 12.3%) reported such thoughts six months later. Six months after baseline, 3.9% (95% CI = 3.4%, 4.4%) of HCWs reported attempting suicide for the first time. Exposure to potentially morally injurious events, lack of confidence about raising safety concerns and these concerns being addressed, feeling unsupported by managers, and providing a reduced standard of care were all associated with increased suicidal ideation among HCWs during the COVID-19 pandemic. At six months, among clinicians, a lack of confidence about safety concerns being addressed, independently predicted suicidal ideation.

Conclusion

Suicidal thoughts and behaviour among healthcare workers could be reduced by improving managerial support and enhancing the ability of staff to raise safety concerns.

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Background

Concerns have been raised about suicide risk among healthcare workers (HCWs), before and during the COVID-19 pandemic.

Several very tragic high-profile cases of HCW suicide in media.

Existing evidence base poor (Eyles et al., 2021), e.g. cross-sectional, convenience samples, no sampling frame.

We investigated the prevalence and incidence risk of suicidal thoughts and behaviour (STB), and their relationship with occupational risk factors, among HCWs in England between April 2020 and August 2021.

Methods



NHS CHECK – one of the UK’s largest studies of the mental health and wellbeing of healthcare workers through COVID-19

Includes ALL staff (not just clinical).

Longitudinal - online surveys completed at baseline (started April 2020), 6 months, 12 months, and 32 months.

Large number of validated mental health measures, plus sociodemographic and occupational data collected.

Also carried out qualitative interviews (experiences of support services, and moral injury experiences), diagnostic interviews, RCT of wellbeing app.

Protocol paper out in BMJ Open:

<https://bmjopen.bmj.com/content/11/6/e051687.abstract>

Methods

Online surveys used CIS-R suicidality questions:.

“Have you ever thought of taking your life, even though you would not actually do it?” (**suicidal ideation**)

“Have you ever made an attempt to take your life, by taking an overdose of tablets or in some other way?” (**suicide attempts**)

“Have you ever deliberately harmed yourself in any way but not with the intention of killing yourself?” (**non-suicidal self-injury**)

Answer options:

- Yes, in the past 2 months
- Yes, but not in the past 2 months
- No

Design

Used data from **baseline (n=12,514)** and **6 month follow up (n=7,160)**.

Described **proportions** reporting suicidal ideation, attempts, and non-suicidal self-injury at each time period, and **incidence** at 6 months.

Multilevel multivariable logistic regression models (using weighted data).

Investigated associations between outcomes (suicidal ideation, attempts, and non-suicidal self-injury) and **demographic** factors (age, sex, ethnicity) and **occupational** factors (re-deployment status; exposure to potentially morally injurious events; lack of access to personal protective equipment (PPE); lack of confidence about raising safety concerns; lack of confidence that safety concerns would be addressed; feeling unsupported by supervisors or managers, and providing a reduced standard of care.

Results – sample

Variable	Category	Time 1 sample (n=12,514)	Time 2 sample (n=7,160)
Age in years	≤30	2,190 (18.7)	1,075 (15.7)
	31-40	2,701 (25.4)	1,425 (23.4)
	41-50	3,151 (23.0)	1,869 (24.2)
	51-60	3,106 (21.3)	1,962 (24.2)
	≥61	790 (6.9)	507 (7.8)
	Missing	576 (4.7)	322 (4.6)
Sex	Female	10,342 (75.7)	5,874 (75.2)
	Male	2,110 (23.7)	1,255 (24.4)
	Missing	62 (0.6)	31 (0.5)
Ethnicity	White	11,159 (80.9)	6,453 (83.2)
	Black	345 (6.0)	179 (5.3)
	Asian	614 (9.6)	313 (8.3)
	Mixed/Multiple racial & ethnic groups	278 (1.2)	154 (1.1)
	Other racial & ethnic minority groups	86 (2.0)	45 (1.9)
	Missing	32 (0.2)	16 (0.2)
Role	Doctor	835 (9.4)	479 (9.5)
	Nurse	3,366 (29.8)	1,829 (28.3)
	Other clinical	3,646 (30.4)	1,993 (29.6)
	Non-clinical	4,571 (29.8)	2,802 (32.0)
	Missing	96 (0.6)	57 (0.6)

Results – prevalence

		Prevalence						Incidence					
Time	Response	Suicidal ideation		Suicidal attempts		Non-suicidal self-injury		Suicidal ideation		Suicidal attempts		Non-suicidal self-injury	
		n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Baseline	No	8,137	65.7 (64.6, 66.7)	10,927	87.2 (86.4, 88.0)	10,262	82.3 (81.4, 83.1)	-	-	-	-	-	-
	Yes, but not in previous 2 months	2,596	19.5 (18.7, 20.4)	880	6.7 (6.1, 7.3)	1,397	10.3 (9.7, 11.0)	-	-	-	-	-	-
	Yes, within the previous 2 months	1,336	10.8 (10.1, 11.6)	262	2.1 (1.8, 2.5)	407	3.4 (3.0, 3.8)	-	-	-	-	-	-
6 months	No	4,308	61.4 (60.0, 62.8)	5,897	82.7 (81.5, 83.8)	5,532	78.2 (77.0, 79.4)	3,707	80.2 (79.0, 81.5)	5,546	87.7 (86.9, 88.5)	5,098	86.7 (84.8, 86.6)
	Yes, but not in the previous month	1,591	21.0 (19.8, 22.2)	475	6.3 (5.6, 7.0)	776	9.9 (9.1, 10.8)	343	7.4 (6.7, 8.2)	119	1.9 (1.6, 2.2)	226	3.8 (3.3, 4.3)
	Yes, within the previous month	638	9.0 (8.1, 9.9)	164	2.4 (2.0, 2.9)	226	3.2 (2.7, 3.7)	181	3.9 (3.4, 4.5)	125	2.0 (1.6, 2.4)	134	2.3 (1.9, 2.7)

Results – incidence

		Prevalence						Incidence					
Time	Response	Suicidal ideation		Suicidal attempts		Non-suicidal self-injury		Suicidal ideation		Suicidal attempts		Non-suicidal self-injury	
		n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
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Regression analyses – demographic factors

Demographic factors associated with higher likelihood of reporting **suicidal ideation or self-injury**, at **baseline**:

- Younger age (e.g. AOR of >61 0.43, 95%CI 0.23, 0.82)
- Being male (e.g. AOR 1.49, 95%CI 1.16, 1.93)
- Mixed ethnicity (e.g. AOR 3.44, 95%CI 1.10, 10.73)

At **6 months**:

- Younger age (e.g. AOR 0.51, 95%CI 0.33, 0.79)

At both time points, no statistically significant associations between demographics and reporting **suicidal attempts**.

Regression analyses – occupational factors at baseline

Occupational factors associate with higher likelihood of reporting **suicidal ideation**, at **baseline** in **clinical and non-clinical staff**:

- Lack of confidence in raising safety concerns (e.g. AOR 2.20, 95%CI 1.61, 3.01)
- Lack of confidence safety concerns will be addressed (e.g. AOR 2.19, 95%CI 1.62, 2.95)
- Lack of support from managers (e.g. AOR 2.18, 95%CI 1.67, 2.85)
- Experiencing potentially morally injurious events (e.g. AOR 1.76, 95%CI 1.43, 2.17)

In just **clinical staff**:

- Having to provide a worse standard of care than usual (e.g. AOR 1.45, 95%CI 1.20, 1.76)

In just **non-clinical staff**:

- Lack of access to adequate PPE (non-clinical) (e.g. AOR 1.34, 95%CI 1.04, 1.73)

Regression analyses – occupational factors at 6 months

Once we adjusted for all relevant factors (inc. baseline level of relevant outcome), only ONE factor predicted outcomes at **6 months**.

Lack of confidence in safety concerns being addressed (at baseline) predicted **suicidal ideation** in clinical staff at 6 months (AOR 1.45, 95%CI 1.12, 1.89).



Discussion

Five key findings:

1. 1 in 10 participants reported suicidal thoughts in past two months, with 3% reporting self-harm, and 2% reporting attempted suicide.
2. Of those who'd never had suicidal thoughts, 1 in 10 participants reported this at 6 months.
3. Exposure to moral injury, lack of confidence about raising and management of safety concerns, unsupported by managers, providing worse care, all associated cross-sectionally with STBs.
4. Baseline lack of confidence about management of safety concerns associated with suicidal thoughts at 6 months (among clinicians).
5. No evidence that re-deployment is associated with STBs (may be due to small numbers).

Conclusions

- Our findings that ~30% of HCWs had ever experienced suicidal ideation fits with other work on this, where 31% reported suicidal ideation (Rathod et al., 2020). Higher than general population levels (~20%, McManus et al., 2016)
- Strengths – Follow up data allowed exploration of predictive factors. Known sampling frame. Weighted data.
- Limitations – Still a lot of understand and unpick about what can reliably predict suicidal thoughts and behaviours – e.g. we don't have pre-pandemic data from this cohort.
- Ongoing analysis of 12 and 32 month data to look at outcomes over time.

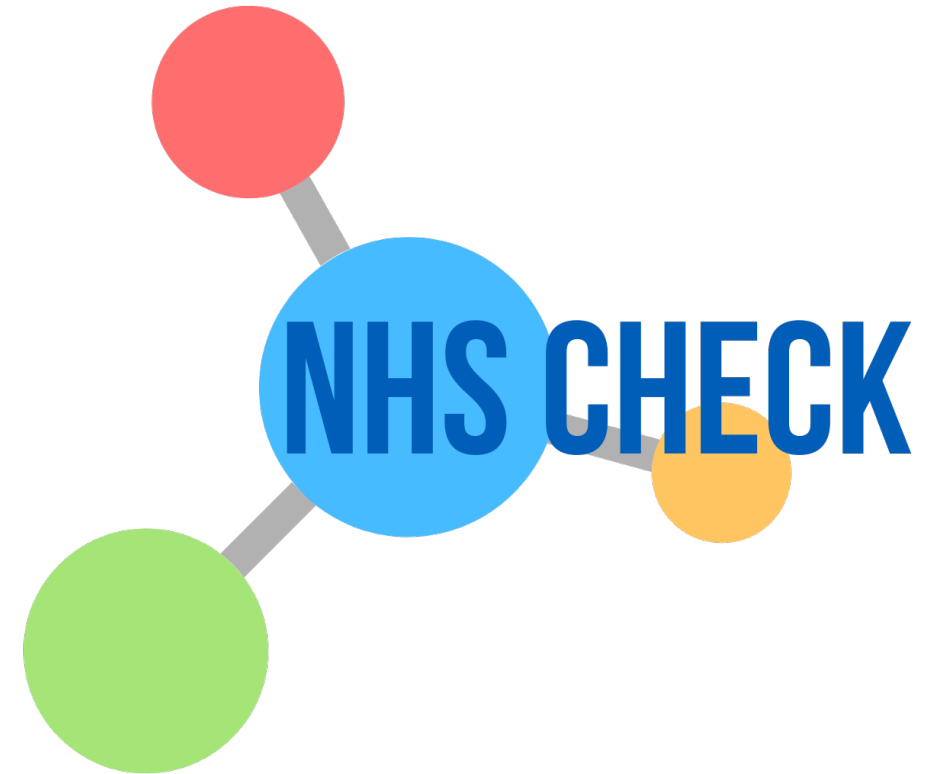
Thank you

D.Lamb@ucl.ac.uk

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Conflict of interests

MH, RR, and SW are senior NIHR Investigators.

SW has received speaker fees from Swiss Re for two webinars on the epidemiological impact of COVID 19 pandemic on mental health. SW is a board member of NHS England.

RR reports grants from DHSC/UKRI/ESRC COVID-19 Rapid Response Call, grants from Rosetrees Trust, grants from King's Together rapid response call, grants from UCL (Wellcome Trust) rapid response call, during the conduct of the study; & grants from NIHR outside the submitted work.

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NG reports a potential COI with NHSEI, during the conduct of the study; and I am the managing director of March on Stress Ltd which has provided training for a number of NHS organisations.

The views expressed are those of the authors and not necessarily those of the NHS, the NIHR, or the Department of Health and Social Care.

Other authors report no competing interests.

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