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## **Healthcare Professionals' Implementation of National Guidelines with Patients who Self-Harm**

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## Abstract

Background: National guidelines for the short-term management of self-harm are aimed at healthcare professionals who may be involved in the care of people who have self-harmed. However, evidence from small-scale studies globally suggest there is a lack of awareness of such guidelines among some groups of healthcare professionals. For the first time in a large representative sample of patient-facing healthcare professionals, we aimed to identify: (a) which healthcare professionals are aware of guidelines for the management of self-harm; (b) the perceived availability of training; (c) the use of risk screening tools; and (d) the extent to which healthcare professionals implement guidelines for the management of self-harm. Methods: 1020 UK healthcare professionals completed a cross-sectional survey online. Results: 85.6% (873/1020) of the sample had heard of the national guidelines, but only 24.3% (248/1020) knew “a fair amount” or more about them. Of the respondents who had previously encountered a patient who had self-harmed or was at risk of repeat self-harm, the guidelines were implemented in fewer than 50% ( $M = 43.89\%$ ,  $SD = 38.79$ ) of encounters. 31% (312/1020) of the sample had received training in managing self-harm and, contrary to guidelines, 2.25% (23/1020) of the sample had used self-harm risk screening tools. Conclusions: Our findings highlight a need to improve knowledge of self-harm management guidelines, and identifies professional groups where awareness and knowledge is currently low. Further work is required to develop interventions to change healthcare professional practice with respect to the implementation of self-harm management guidelines.

*Keywords:* self-harm, evidence based guidelines, implementation.

## **Healthcare Professionals' Implementation of National Guidelines with Patients who Self-Harm**

### **Introduction**

Self-harm, defined in the UK National Institute for Health and Care Excellence (NICE) guidelines as “any act of self-poisoning or self-injury carried out by an individual irrespective of motivation” (NICE, 2004, p. 4), is a major public health issue. People who self-harm are at an elevated risk of death by suicide (Carroll et al., 2016), and long-term population trends in self-harm correlate strongly with deaths by suicide (Geulayov et al., 2016). Increasingly, self-harm is being recognised as an important target in suicide prevention strategies by governments globally (World Health Organization, 2018), including in the UK (HM Government, 2019). Between the years 2000 and 2013 the prevalence of self-harm increased in the UK, specifically in middle aged men (Clements et al., 2019), adolescent girls, and young women (McManus et al., 2019), which has renewed pressure to scrutinise the identification, assessment and management of self-harm by healthcare professionals.

The NICE guidelines for the long- and short-term management of self-harm (NICE, 2004, 2011) are aimed at all healthcare professionals who may be involved in the care of a person who has self-harmed, with specific sub-sections for ambulance staff, emergency services, primary care, and secondary mental health teams. The guidelines include recommendations that clinical and non-clinical staff are trained to understand and care for people who have self-harmed, and that medical treatment and psychosocial assessment should be offered to all patients presenting to healthcare services with self-harm.

Healthcare professionals' awareness of government policies and guidelines can be low (e.g., 31.4%) (Keyworth et al., 2018) and preliminary studies suggest there is a lack of awareness among healthcare professionals about the national guidelines for self-harm. For example, an audit of 59 UK healthcare professionals working in a burns and plastic surgery unit showed that just 7 (12%) had even heard of the guidelines (Heyward-Chaplin et al., 2018). Similarly, Carr and colleagues (Carr et al., 2016) demonstrated the hazards of not implementing UK guidelines: 3,985 patients (8.8%) from a

primary care cohort of 41,500 presenting with self-harm were prescribed with potentially lethal tricyclic medication despite this being a ‘do not do’ recommendation in the UK NICE guidelines.

A similar picture emerges about professional training for self-harm. For example, a study of 178 mental health professionals conducted in The Netherlands found that although 146 (82%) had encountered patients who had self-harmed as part of their role, just 7 (4%) had received specialised training about self-harm (Kool et al., 2014). Research on the availability and content of training for self-harm outside secondary mental health settings is scarce, but interviews with 30 general practitioners (GPs) in Scotland identified gaps in their knowledge about self-harm, particularly about suicide risk assessment following self-harm (Chandler et al., 2016). The use of screening tools to assess repeat self-harm and suicide risk is another ‘do not do’ recommendation in the UK NICE guidelines, due to poor diagnostic accuracy and limited positive predictive values (Stegg et al., 2018). However, a survey of 28 GPs suggested 24 (88%) were open to using screening tools with young people who have self-harmed (Fox et al., 2015).

## **Objectives**

The evidence suggests that some healthcare professionals may: (a) be unaware of self-harm guidelines, (b) lack training to manage patients who have self-harmed or are at risk of repeat self-harm, and (c) may erroneously be using screening tools against the UK NICE guidance. However, previous studies have been conducted on small samples of defined groups of healthcare professionals ( $Ns < 200$ ) that are unrepresentative of healthcare professionals in general. The aims of the present research were thus to identify: (a) what healthcare professionals are aware of the UK NICE guidelines for self-harm, and what settings they work in; (b) the perceived availability of training about the management of self-harm; (c) the extent to which risk assessment tools for repeat self-harm are used by healthcare professionals; and (d) the extent to which healthcare professionals implement the UK guidelines for self-harm.

## **Material and Methods**

### **Design and Procedure**

An online cross-sectional survey was conducted in April 2019. A market research company (YouGov) was enlisted to recruit a representative sample of healthcare professionals working in the United Kingdom. Members of YouGov's online panel are routinely purposively sampled and invited to take part in surveys, and are incentivised to take part with a points-based system; respondents accumulate points for completing surveys, which can be exchanged for prize draws or cash payment (YouGov, 2018). Survey responses were collected and anonymised by YouGov, then transferred to the researchers for analysis.

### **Participants**

The sample comprised healthcare professionals, who were eligible to take part if they worked in a patient-facing role in the NHS or in private practice. Data were collected by a market research company (YouGov) who ensured a representative sample of healthcare professionals based on the proportions of occupations within the NHS workforce statistics (NHS Digital, 2019). In accordance with GDPR regulations, no personally identifiable participant data were shared with the research team.

### **Ethics Statement**

All procedures were conducted in accordance with the latest version of the Declaration of Helsinki. The study was approved by a university research ethics committee in February 2019 (Ref: 2019-5456-9504). Informed consent was obtained from all participants at the beginning of the questionnaire.

### **Measures**

The questionnaire was part of a wider survey about professional encounters with patients who self-harm, adapted from an existing survey of healthcare professionals (Keyworth et al., 2018). Demographic information collected included gender, age, professional role, healthcare setting, work organisation, and length of time practicing. Survey questions are listed in Table 2.

Awareness of the NICE guidelines was measured by asking participants to rate on a five-point scale (from 'never heard of' to 'know very well') how familiar they were with the guidelines. After answering, participants were provided with a brief outline of the NICE guidelines for the short-term management of self-harm (NICE, 2004) to read before proceeding to the next questions. For brevity, a summary of the long-term guidance was not included. Participants indicated whether they had ever assessed, treated or referred a patient who presented with self-harm or who was at risk of self-harm in the past. Respondents who reported ever encountering a patient in this manner were asked to estimate with what proportion of patients they implemented the NICE guidelines for self-harm using a 0-100% scale. Implementation was defined as healthcare professionals following the NICE guidance for self-harm during an encounter with a patient who self-harmed or was believed to be at risk of repeat self-harm.

Participants were asked whether or not they had ever undertaken training for the assessment and management of self-harm; follow-up questions asked how long ago the training took place, and whether or not they found the training sufficient. Participants indicated whether they ever used tools, which were defined for participants as any resource that aided their assessment or management of self-harm during an encounter with a patient, or during training. Participants were asked to describe the tools in an open-ended question, in order to distinguish between risk screening tools and other resources.

## **Analyses**

Descriptive statistics were used to summarise self-reported guideline awareness, training, tool use, and guideline implementation. Categorical variables were dichotomised for analysis by combining "Don't know" and "Can't recall" responses with negative responses. Mean proportions of implementation of NICE guidelines (based on previous encounters with patients who had self-harmed) were calculated and explored using ANOVA. Post-hoc analyses were conducted with chi square tests and Tukey's HSD respectively. Results are presented across healthcare professional groups. Chi square was used to compare the representativeness of the sample compared to NHS workforce statistics. Tools described in the open-ended question were categorised as either 'self-harm

risk screening tools' provided the tool specifically intended to predict suicide or repeat self-harm risk, 'mental health assessment tools' for all other mental health screening tools or 'resources' for any remaining tools, and were frequency counted. All survey responses were included in the analysis, including those with missing items. Analyses were conducted using SPSS version 25 and Microsoft Excel 2016.

## Results

### Sample characteristics

The sample ( $n = 1020$ , Table 1) comprised nurses ( $n = 559$ , 54.8%), hospital doctors ( $n = 107$ , 10.5%), mental health professionals ( $n = 84$ , 8.2%), GPs ( $n = 67$ , 6.6%) and uncategorised patient-facing professions ( $n = 203$ , 19.9%). A further breakdown by role and organisation type can be found in supplementary file 1.

Comparisons with NHS staff demographics were not made by occupation and setting because of differing category groups in the NHS digital data sets (for example, midwives are included in nurse statistics) (NHS Digital, 2019). Although our sample was broadly representative, there were slight under-representations of men, people from BAME groups, and professionals under the age of thirty-five, but the effect sizes associated with these differences were small ( $r_s < .10$ , Table 1).

[Insert Table 1 here]

### Awareness of NICE guidelines for self-harm

Results are presented in Table 2. Eighty-six percent of the sample ( $n = 873$ ) had heard of the NICE guideline for self-harm, while 14% ( $n = 147$ ) had never heard of the guidelines. 24.3% ( $n = 248$ ) knew "a fair amount" about the guidelines or knew them "very well". These respondents were categorised in the analysis as 'aware of the guidelines', while the remainder were categorised as having 'limited awareness of the guidelines' ( $n = 772$ , 75.7%).

[Insert Table 2 here]

Awareness was poor across all professional groups, particularly among nurses and uncategorised patient-facing professionals (Table 3). Further examination revealed 63.8% ( $n = 37$ ) of nurses and 40.0% ( $n = 4$ ) of uncategorised professionals working in mental health trusts were aware of the guidelines, compared to 13.7% ( $n = 39$ ) and 7.4% ( $n = 8$ ) respectively working in NHS hospitals.

Mental health professionals were the exception: half were aware of the guidelines (Table 3). Awareness differed significantly between professional groups ( $X^2(4, N = 1020) = 55.68, p < .001, r = .23$ ). Post-hoc tests revealed mental health professionals were more likely to be aware of the guidelines compared to hospital doctors ( $p = .01, r = .18$ ), nurses ( $p < .001, r = .22$ ), and uncategorised professionals ( $p < .001, r = .41$ ). Nurses were less likely to be aware of the guidelines compared to GPs ( $p = .01, r = .10$ ) and hospital doctors ( $p = .03, r = .22$ ), while uncategorised patient-facing professionals were less likely to be aware than GPs ( $p < .001, r = .26$ ), hospital doctors ( $p < .001, r = .24$ ) and nurses ( $p < .01, r = .11$ ).

[Insert Table 3 here]

## Training

Thirty-one percent ( $n = 312$ ) of respondents had received training on the assessment and management of self-harm. Most had done so within the last five years (Table 2). Sixty-three percent ( $n = 197$ ) reported their training had sufficiently prepared them to assess and manage self-harm, and the remainder were either unsure or believed it was insufficient (Table 2).

Training availability differed significantly between professions ( $X^2(4, N = 1020) = 125.59, p < .001, r = .35$ ). More mental health professionals had undergone training than other groups (Table 3). Approximately half of GPs and hospital doctors had been trained, in contrast to a quarter of nurses. 75.9% ( $n = 44$ ) of nurses working in mental health trusts had undergone training compared to 16.4% ( $n = 9$ ) working in GP surgeries and 14.4% ( $n = 41$ ) in NHS hospitals. Uncategorised professionals were most likely to have never had training (Table 3); those working in community ( $n = 9, 23.1%$ ) and mental health services ( $n = 2, 20.0%$ ) were more likely to have had training compared to those

working in GP surgeries ( $n = 3$ , 13.6%) and NHS hospitals ( $n = 7$ , 6.5%). Nurses were less likely to have had training compared to mental health professionals GPs and hospital doctors ( $ps < .001$ ,  $r = .20-.28$ ). Uncategorised patient-facing professionals were less likely than mental health professionals, GPs, hospital doctors, and nurses ( $ps < .001$ ,  $r = .15-.54$ ) to have had training.

Perceived sufficiency of training differed significantly by profession ( $X^2(4, N = 312) = 16.29$ ,  $p < .01$ ,  $r = .23$ ). Mental health professionals were more likely to believe their training was sufficient compared to GPs ( $p = .04$ ,  $r = .22$ ) and nurses ( $p < .01$ ,  $r = .20$ ). Uncategorised patient-facing professionals were less likely to have had sufficient training than GPs ( $p = .04$ ,  $r = .27$ ), hospital doctors ( $p = .02$ ,  $r = .28$ ), nurses ( $p = .02$ ,  $r = .18$ ) and mental health professionals ( $p < .001$ ,  $r = .46$ ). Time elapsed since training did not differ significantly between professional groups ( $p = .25$ ,  $r = .13$ ).

### **Tools and Resources**

Five participants did not respond to the questions about the use of tools and access to resources: 1 nurse and 3 uncategorised professionals working in NHS hospitals, and 1 nurse working in an unknown setting. Statistical comparisons between responders and non-responders to this item were not made due to small cell sizes.

12.2% ( $n = 124$ ) of participants reported ever using a tool or resource to aid their assessment and management of self-harm (Table 2). Mental health professionals most often used tools while GPs least often used tools (Table 3). Tool use differed significantly between professionals ( $X^2(4, N = 1015) = 44.92$ ,  $p < .001$ ,  $r = .21$ ). Post-hoc tests revealed GPs were less likely to use a tool than mental health professionals ( $p < .001$ ,  $r = .35$ ) and hospital doctors ( $p = .03$ ,  $r = .16$ ). Uncategorised professionals were also less likely to use tools compared to mental health professionals ( $p < .001$ ,  $r = .34$ ) and hospital doctors ( $p = .03$ ,  $r = .13$ ). Mental health professionals were more likely to have used a tool than hospital doctors ( $p = .001$ ,  $r = .22$ ) and nurses ( $p < .001$ ,  $r = .21$ ).

Of the 124 respondents who had used tools, 23 (18.5%) reported using self-harm risk assessment tools. 17 (13.7%) specified which tools, including the SADPERSONS scale ( $n = 7$ ) Beck's Self Harm Inventory ( $n = 8$ ), CSSRS ( $n = 1$ ), and TASR ( $n = 1$ ). 6 (4.8%) referred to unnamed

or local self-harm assessment tools. 56 (45.2%) used mental health assessment tools with a patient, including HADS, PHQ-9, EPDS, FACE and local risk assessment pro-formas. The remaining 45 (36.3%) referred to miscellaneous non-screening resources they had used to aid their assessment and management of self-harm, including training, safeguarding practices, counselling skills, safety plans and STORM materials. 2 (1.6%) referred to NICE or the national guidelines.

## **Implementation**

Respondents who reported encountering a patient who had self-harmed or was at risk of repeat self-harm in the past ( $n = 714$ ) were asked with what proportion of patients they implemented the self-harm guidelines, which elicited 539 responses. Of the 298 participants who did not respond to this item there were 30 GPs, 38 hospital doctors, 161 nurses, 16 mental health workers and 53 uncategorised professionals. Significantly fewer GPs responded to this item than nurses, uncategorised and mental health professionals ( $r_s = 0.11-0.28$ ), while significantly more mental health professionals responded than hospital doctors ( $r_s = 0.18$ ).

Professionals implemented the guidelines with a mean of 43.9% (SD = 38.8) of the patients they had encountered (Table 2). 18.4% of respondents ( $n = 99$ ) never implemented the guidelines with any patients. Mental health professionals and GPs reported implementing the guidelines with the greatest proportion of patients, while uncategorised professionals implemented the guidelines with the lowest proportion (Table 3). Further analysis revealed implementation was higher for nurses (M = 80.0%, SD = 18.45) and uncategorised professionals (M = 53.3%, SD = 33.50) working in mental health settings compared to other settings (depicted in Figure 1).

Self-reported implementation of the guidelines differed significantly by profession ( $F(4, 534) = 10.41, p < .001, \eta^2_p = .07$ ). Post-hoc analyses using Tukey HSD suggested mental health professionals implemented the guidelines with a significantly greater proportion of patients than nurses and uncategorised professionals ( $p_s < .001$ ). GPs implemented the guidelines with significantly greater proportion of patients than nurses and uncategorised professionals ( $p_s < .05$ ). uncategorised

professionals implemented the guidelines with a significantly smaller proportion of patients than the other healthcare professionals ( $ps < 0.05$ ), apart from nurses ( $p = .07$ ).

[Insert Figure 1 here]

## Discussion

### Main findings

The main findings were that 85.6% of the sample had heard of the guidelines, but knowledge was variable since only 24.3% knew “a fair amount” or more. This demonstrates a better awareness of the guidelines compared to findings from a small UK sample (Heyward-Chaplin et al., 2018). The finding that only a quarter of the present sample reported knowing the guidelines well is comparable to McCann and colleagues (McCann et al., 2006) who showed that a minority of professionals who were aware of guidelines had ever read them, suggesting digitising and uploading guidelines to publicly-available websites has had limited impact on the likelihood of them being accessed and read by their intended audience. Significantly more mental health professionals were knowledgeable of the guidelines (50.0%) compared to other professionals, but nurses and uncategorised professionals working in mental health trusts were more knowledgeable than their counterparts working in other settings such as NHS hospitals. One explanation is that regular encounters with patients in mental health settings may maintain, or demand, familiarity with guidelines and protocols, whereas in settings where self-harm is less common the guidelines may not be as readily understood, nor applicable (Worrall and Jeffery, 2017).

Despite the recommendation that all staff who may encounter self-harm should be adequately trained; training was only undertaken by thirty-one percent of the sample. Approximately two-thirds of training had taken place within the last five years, and 63% of respondents felt their training had been sufficient. Once again, mental health professionals were significantly more likely to have undergone training and found it sufficient, while nurses and uncategorised professionals were significantly less likely. Compared to existing literature, our sample undertook relatively high rates of training; previous surveys found between 10-14% of emergency department staff had recent training

about self-harm (Jones and Avies-Jones, 2007; McAllister et al., 2002). Although one study of emergency department nurses reported that 68% percent had received *education* about self-harm, their definition included self-directed study, workshops and courses (Conlon and O’Tuathail, 2012). The limited availability of training about self-harm may be a result of inadequate detail in the NICE guidelines about what constitutes “appropriate training”, or that the responsibility for the development of training is managed by individual NHS trusts without any unifying oversight (NICE, 2004, p. 9).

12% of professionals reported using tools or resources to aid their assessment and management of self-harm; GPs were significantly less likely to have used a tool than other professionals, while mental health professionals were significantly more likely to have used a tool. Of the respondents who had used tools, 23 reported using a self-harm risk assessment tool, 56 used generic mental health screening tools and 45 used other non-screening resources. Our findings corroborate earlier research that risk screening tools, particularly the SADPERSONS Scale and Beck’s Self-Harm Inventory are still in use with a minority of healthcare professionals, despite an explicit ‘do not do’ in the NICE guidelines to predict risk or determine patient management using such tools (Quinlivan et al., 2014). This suggests some healthcare professionals are unaware of this facet of the guidance, and persist in using self-harm risk screening tools against best practice.

Participants reportedly followed the NICE guidance with an average of 44% of the patients they encountered. Lower implementation by nurses and uncategorised professionals in non-mental health settings may reflect the intense and complex nature of care for self-harm, where psychological wellbeing often becomes secondary to physical treatment (Caine et al., 2016). Another explanation is that guidelines do not always supersede clinical judgement as required, especially if there is an overriding clinical imperative so some healthcare professionals may sometimes deem it unnecessary to implement the guidelines (Cahill and Rakow, 2012). This may also explain the disparity between the extent of knowledge in some professionals in our sample compared to the implementation of the guidelines, suggesting knowledge of guidelines alone does not necessarily result in implementation (Cooper et al., 2013).

## **Implications**

Awareness and knowledge could be improved by circulating guidance through internal NHS communications after updates or reviews of their content; removing the burden from individuals to seek information spontaneously. Since training about self-harm is neither mandatory nor standardised across the NHS, trusts develop internal training protocols for staff based on the guidelines. More explicit training recommendations based on the Self-harm and Suicide Prevention Competence Framework (National Collaborating Centre for Mental Health, 2018) would provide a gold standard for resource development, and to advocate refresher training for professionals who infrequently encounter patients who self-harm. Possessing at least the knowledge and skills to act upon the self-harm guidance will be crucial for healthcare professionals managing the potential mental health effects of the COVID-19 pandemic (Gunnell et al., 2020).

There is preliminary evidence that a peer-training programme can improve implementation of suicide guidelines by clinical staff in The Netherlands (De Beurs et al., 2015), but it is unclear if a similar intervention could be applicable to wider professional groups lacking psychiatric expertise. The extent to which the tailoring of guidance to different professions affects their subsequent implementation should be explored. Furthermore, awareness and education only address some aspects of professionals' capability to implement the guidelines. Non-adherence to guidance is also influenced by environmental and social factors (e.g.: time constraints and support from peers) (Francke et al., 2008), and motivational factors (e.g.: beliefs and emotional reactions to self-harm) (Worrall and Jeffery, 2017). Further research into healthcare professionals' capabilities, opportunities and motivations (Michie et al., 2014) to implement the self-harm guidelines is necessary to develop interventions that will ensure healthcare professional practice around self-harm changes (e.g., Keyworth et al., 2019) and addresses the implementation gap between policy and services (Kapur, 2020).

### **Strengths and Limitations**

This study is the first to investigate awareness and implementation of the NICE guidelines for self-harm among a large sample of healthcare professionals. This research is timely since NICE is currently reviewing the self-harm management guidelines. However, the research is not without its

limitations. While we aimed to recruit a representative sample, the generalisability of the responses is limited since professionals from minority ethnic backgrounds, under 35, and male were under-represented. Further, some professions with vital roles in self-harm management including pharmacists (Gorton et al., 2019) were absorbed into the uncategorised category, which obfuscated data unique to these professionals. In future, researchers could stratify their samples to represent the breadth of professionals that are involved in self-harm prevention. Additionally, due to routing errors approximately 200 participants who were eligible to answer the implementation item did not respond, which reduced the sample size for this question.

## **Conclusions**

Most healthcare professionals have heard of the NICE guidelines for self-harm, but only a quarter know a fair amount or more about them, representing a need for improved knowledge about the guidelines among healthcare professionals working outside of mental health settings. While there is an obvious need to increase access to training there is also a requirement to improve the design of existing training provision to change healthcare professionals' behaviour to be in accordance with the guidelines when they encounter a patient who has self-harmed or is at risk of self-harm. More specifically, all healthcare professionals need to be made aware that risk screening tools should not be used to predict self-harm and suicide risk.

The NICE guidelines for self-harm are currently under review, and will be combined into a single guideline (NICE, 2020). The updated guidance about self-harm management should expressly target healthcare professional groups working outside of mental health settings in its dissemination strategy, to improve awareness of the guidance among professionals where knowledge and implementation is currently limited. Considering the NICE guidelines are implemented with fewer than half of patients on average, future research should focus on identifying the barriers healthcare professionals encounter, to understand healthcare professionals' opportunities and motivation to implement the guidelines. Interventions to change healthcare professionals' practice in line with the self-harm guidelines should be informed by these factors, which would contribute to more consistent, respectful and evidence-based care for people who self-harm.

## Captions

Table 1: Sample Demographics

Table 2: Awareness and implementation of NICE guidelines for self-harm

Table 3: Awareness and implementation of NICE guidelines by healthcare professional group

Figure 1: Implementation of NICE guidelines for self-harm by professional occupation and work organisation ( $n = 539$ ).

## Declaration of Interests

All authors have completed the Unified Competing Interest form (available on request from the corresponding author) and declare: Miss Leather reports grants from NIHR PSTRC, outside the submitted work; and CJA was supported by NIHR Manchester Biomedical Research Centre; RCO is a member of the guideline development committee for the revised NICE guidelines for self-harm; NK chaired the committees developing the NICE Guidelines for Self-Harm (Longer Term Management) 2012 and the NICE Quality Standards on Self-Harm 2013; NK is currently topic advisor for the new NICE guidelines on self-harm and Chair of the Guideline Committee for the NICE Depression Guidelines. NK works with NHS England on national quality improvement initiatives for suicide and self-harm and sits on the Department of Health and Social Care's National Suicide Prevention Strategy Advisory Group for England. The views expressed in this article are the authors' own and not those of the Department of Health and Social Care, NHS England or NICE.

## Author Contributions

JZL, ROC, LQ, NK, and CJA designed the survey. JZL arranged data collection, conducted the analyses and wrote the first draft of the manuscript under the supervision of CJA. ROC, LQ, NK, and SC commented on drafts of the manuscript and revised it critically for important intellectual content. JZL is the guarantor.

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**Data Statement**

The authors had full access to the study data in a university research data storage repository; access is ongoing. The data that support the findings of this study are available from the corresponding author, JZL, upon reasonable request.

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**Table 1:** Sample Demographics

Variable	<i>n</i>	(%)	NHS data <i>n</i> <sup>a</sup>	NHS data (%) <sup>a</sup>	$\chi^2$ for difference between sample and population
<b>Gender</b>					$\chi^2 = 8.42 p < 0.01, r < 0.01$
Women	824	80.78	960,863	76.96	
Men	196	19.22	287,696	23.04	$\chi^2 = 51.85 p < 0.01, r = 0.01$
<b>Age</b>					
18-34	214	20.98	365,954	29.31	
35-44	225	22.06	293,776	23.53	
45-54	307	30.10	338,140	27.08	
55+	274	26.86	250,689	20.08	$\chi^2 = 290.72 p < 0.01, r = 0.02$
<b>Ethnicity</b>					
White	944	92.55	843,385	75.56	
BAME	66	6.47	346,301	19.75	
Prefer not to say	10	0.98	58,873	4.69	
<b>Location</b>					
England	824	80.78			
Scotland	114	11.18			
Wales	64	6.27			
Northern Ireland	18	1.76			
<b>Profession</b>					
GP	67	6.57			
Hospital doctor	107	10.49			
Nurse	559	54.80			
Mental health professionals	84	8.24			
Uncategorised	203	19.90			
<b>Length of time practicing</b>					
Still qualifying/first year	46	4.51			
1-3 years	94	9.22			
4-6 years	116	11.37			
7-10 years	136	13.33			
11-15 years	145	14.22			
16-20 years	81	7.94			
Over 20 years	402	39.41			
<b>Work setting</b>					
NHS Acute Care	376	36.86			
NHS Tertiary Care	72	7.06			
NHS Community Care	188	18.43			
NHS Primary Care	220	21.57			
Independent	61	5.98			
Other	103	10.10			
<b>Organisation Type</b>					
NHS hospital	505	49.51			
GP surgery/health centre	143	14.02			
Mental health trust/service	112	10.98			
Community services	121	11.86			
Other	139	13.63			

<sup>a</sup> NHS data according to NHS workforce statistics 2019

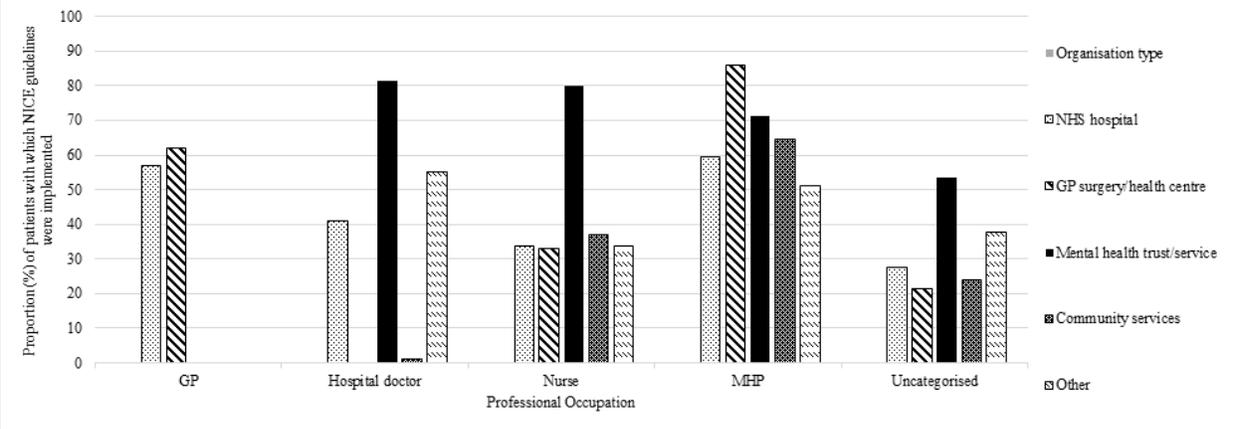
**Table 2:** Awareness and implementation of NICE guidelines for self-harm

Question	<i>n</i>	(%)	Mean %	(SD)
<b>How familiar are you with the NICE guidelines for self-harm?</b> [1020 responses]				
Know very well	52	5.10		
Know a fair amount	196	19.22		
Know just a little	322	31.57		
Heard of, know almost nothing about	303	29.71		
Never heard of	147	14.44		
<b>Have you ever used a tool or resource to aid your assessment and management of self-harm during an encounter with a patient or as part of your training?</b> [1015 responses]				
Yes	124	12.22		
No	807	79.51		
Don't know	84	8.28		
<b>Have you ever taken part in training for the assessment and management of self-harm?</b> [1020 responses]				
Yes	312	30.59		
No	708	69.41		
<b>How recent was this?</b> [312 responses]				
Last year	54	17.31		
1-5 years ago	143	45.83		
6-10 years ago	56	17.95		
10+ years ago	36	11.54		
Can't recall	23	7.37		
<b>Did your training sufficiently prepare you to assess and manage self-harm?</b> [312 responses]				
Yes	197	63.14		
No	72	23.07		
Don't know	43	13.78		
<b>Of the patients you have seen who self-harmed or you thought were at risk of self-harm, with what proportion did you implement the NICE guidelines?</b> [539 responses]			43.89	38.79

**Table 3:** Awareness and implementation of NICE guidelines by healthcare professional group

Question	Healthcare professional group					$X^2/F$
	GP	HPDR <sup>a</sup>	Nurse	MHP <sup>b</sup>	Uncategorised	
<b>How familiar are you with the guidelines?</b>						
(Aware of guidelines)	24/67 (35.82%)	34/107 (31.78%)	123/559 (22.00%)	42/84 (50.00%)	25/203 (12.32%)	$X^2(4, N = 1020) = 55.68,$ $p < .001, r = .23$
(Limited awareness of guidelines)	43/67 (64.18%)	73/107 (68.22%)	436/559 (78.00%)	42/84 (50.00%)	178/203 (87.68%)	
<b>Have you ever used a tool or resource?</b>						
(Yes)	3/67 (4.48%)	16/107 (14.95%)	63/557 (11.27%)	28/84 (33.33%)	14/200 (6.90%)	$X^2(4, N = 1015) = 44.92,$ $p < .001, r = .21$
(No)	64/67 (95.52%)	91/107 (85.05%)	494/557 (88.37%)	56/84 (66.66%)	186/200 (91.63%)	
<b>Have you ever taken part in training?</b>						
(Yes)	37/67 (55.22%)	54/107 (50.47%)	144/559 (25.76%)	54/84 (64.29%)	23/203 (11.33%)	$X^2(4, N = 1020) =$ 125.59, $p < .001, r = .35$
(No)	30/67 (44.78%)	53/107 (49.53%)	415/559 (74.2%)	30/84 (35.71%)	180/203 (88.67%)	
<b>How recent was your training?</b>						
(Within 5 years)	23/37 (62.16 %)	37/54 (68.52%)	83/144 (57.64%)	40/54 (74.07 %)	14/23 (60.87%)	$X^2(4, N = 312) = 5.38,$ $p = .25, r = .13$
(More than 5 years)	14/37 (37.84%)	17/54 (31.48%)	61/144 (42.36%)	14/54 (25.93%)	7/23 (39.13%)	
<b>Did your training sufficiently prepare you?</b>						
(Yes)	23/37 (62.16%)	35/54 (64.81%)	87/144 (60.42%)	44/54 (81.48%)	8/23 (34.78%)	$X^2(4, N = 312) = 16.29,$ $p < .01, r = .23$
(No)	14/37 (37.84 %)	19/54 (35.19%)	57/144 (39.58%)	10/54 (18.52%)	15/23 (65.22%)	
<b>With what proportion of patients did you implement the NICE guidelines?</b>	M = 61.47% (SD = 35.96)	M = 46.92% (SD = 41.00)	M = 41.18% (SD = 37.73)	M = 64.39% (SD = 35.91)	M = 29.09% (SD = 35.69)	$F(4, 534) = 10.41,$ $p < .001, \eta^2_p = .07$

<sup>a</sup> Hospital doctor<sup>b</sup> Mental health professional



## **Highlights**

- 85.6% of healthcare professionals have heard of the NICE guidelines for self-harm.
- 24.3% of healthcare professionals know what is in the guidelines for self-harm.
- 2.3% of healthcare professionals breach 'do not do' recommendations.
- Guidelines for self-harm are implemented in 43.9% of encounters with patients.
- Awareness of self-harm guidelines was lowest outside mental health settings.

## **Disclosures**

### **Declaration of Interests**

All authors have completed the Unified Competing Interest form (available on request from the corresponding author) and declare: Miss Leather reports grants from NIHR PSTRC, outside the submitted work; and CJA was supported by NIHR Manchester Biomedical Research Centre; RCO is a member of the guideline development committee for the revised NICE guidelines for self-harm; NK chaired the committees developing the NICE Guidelines for Self-Harm (Longer Term Management) 2012 and the NICE Quality Standards on Self-Harm 2013; NK is currently topic advisor for the new NICE guidelines on self-harm and Chair of the Guideline Committee for the NICE Depression Guidelines. NK works with NHS England on national quality improvement initiatives for suicide and self-harm and sits on the Department of Health and Social Care's National Suicide Prevention Strategy Advisory Group for England. The views expressed in this article are the authors' own and not those of the Department of Health and Social Care, NHS England or NICE.

### **Author Contributions**

JZL, ROC, LQ, NK, and CJA designed the survey. JZL arranged data collection, conducted the analyses and wrote the first draft of the manuscript under the supervision of CJA. ROC, LQ, NK, and SC commented on drafts of the manuscript and revised it critically for important intellectual content. JZL is the guarantor.

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### **Data Statement**

The authors had full access to the study data in a university research data storage repository; access is ongoing. The data that support the findings of this study are available from the corresponding author, JZL, upon reasonable request.