

**DEVELOPING AN INTERVENTION TO IMPROVE IMPLEMENTATION
OF NATIONAL GUIDANCE FOR SELF-HARM**

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List of Abbreviations

A&E	Accident and Emergency
ANOVA	Analysis of Variance
APA	American Psychological Association
BAME	Black and Minority Ethnic
BCT	Behaviour Change Technique
BCTTv1	Behaviour Change Technique Taxonomy version 1
BCW	Behaviour Change Wheel
COM	Capability, Opportunity, and Motivation
COM-B	Capability (C), Opportunity (O), and Motivation (M) theory of Behaviour (B)
CPD	Continuing Professional Development
CPRD	Clinical Practice Research Datalink
CQUIN	Commissioning for Quality and Innovation
CSSRS	Columbia Suicide Severity Rating Scale
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
EPDS	Edinburgh Postnatal Depression Scale
GDPR	General Data Protection Regulation
GM PSTRC	Greater Manchester Patient Safety Translational Research Centre
GP	General Practitioner/General Practice
GRADE	Grading of Recommendations Assessment, Development and Evaluation
HADS	Hospital Anxiety and Depression Scale
HM	Her Majesty's
HPDR	Hospital Doctor
ID	Identification
IF	Intervention Function

IMV	Integrated Motivational-Volitional
IP	Intellectual Property
LJMU	Liverpool John Moores University
MHP	Mental Health Professional
MRC	Medical Research Council
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
NIHR	National Institute for Health Research
NMC	Nursing and Midwifery Council
NSSH	Non-suicidal self-harm
NSSI	Non-suicidal self-injury
PHQ-9	Patient Health Questionnaire-9
RAND/UCLA	RAND Corporation/University of California Los Angeles Appropriateness Method
RCGP	Royal College of General Practitioners
SD	Standard Deviation
SE	Standard Error
SPSS	Statistical Package for the Social Sciences
STORM	Self-Report Tool for Recognizing Mania
TASR	Tool for Assessment of Suicide Risk
TDF	Theoretical Domains Framework
TIDieR	Template for Intervention Description and Replication
Tukey's HSD	Tukey's Honestly Significant Difference
UK	United Kingdom

Abstract

Background: The prevalence of self-harm has increased dramatically, resulting in a growing proportion of healthcare professionals that encounter patients who self-harm. National guidance is available for healthcare professionals that assess and manage self-harm, but uptake of these guidelines is low. Poor adherence to the guidance generates substantial risks for vulnerable patients, but few theory-based strategies exist to enable best practice. The principal objective of this research was to use a ground-up approach to develop a quality improvement intervention to increase implementation of national guidance for self-harm.

Methods: A combined quantitative and qualitative methodological approach was used to identify a target population and understand the behavioural drivers of following the NICE guidelines for self-harm. A cross-sectional online survey was undertaken to collect data from a large, nationally representative sample of UK healthcare professionals ($n = 1020$). The survey explored awareness of the self-harm guidance, and measured potential determinants of guideline implementation. Follow-up interviews ($n = 33$) were analysed using the Theoretical Domains Framework to gain a deeper understanding of the barriers and enablers that influenced primary care professionals' capacity to follow the guidelines. The results were synthesised using the Behaviour Change Wheel approach to intervention design to select candidate intervention functions and behaviour change techniques.

Results: The survey identified a lack of awareness of the guidelines, particularly among healthcare professionals that do not work in mental health settings. Half of respondents failed to implement the guidelines when they encountered a patient at risk of self-harm due to low automatic motivation (i.e.: habits) and few physical opportunities (i.e.: environmental restrictions). However, healthcare professionals had high capabilities (i.e.: knowledge and skills) to follow the guidance, corresponding with the observed association between guideline implementation and prior training and knowledge about self-harm. Primary care was identified as an appropriate target for intervention, due to the high recorded incidence of self-harm in this setting. Analysis of interviews with GPs ($n = 21$) and primary care nurses ($n = 12$) revealed a need for further knowledge about self-harm risk factors, and interpersonal skills training to help navigate high-pressure consultations in a sensitive manner. In addition to information and skills provision, the results implied that primary care professionals require interventions that address clinical uncertainty about assessing and managing self-harm to bolster their professional confidence (i.e.: beliefs about capabilities; professional role and identity). Modifications to the format of the NICE guidelines, and supporting resources such as reminder prompts are warranted to overcome perceptions that the guidelines are inaccessible and distracting during patient interactions (i.e.: memory, attention and decision processes; environmental context and resources).

Conclusions: This research challenges traditional approaches to healthcare professional behaviour change by positing that education and training interventions are insufficient; implementation strategies must also support healthcare professionals' capabilities, opportunities, and motivations using appropriate intervention functions and behaviour change techniques for sustained adherence to national self-harm guidance. Future research should aim to test the acceptability and effectiveness of the candidate interventions outlined within this thesis to facilitate evidence-based practice for self-harm.

Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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

Dedication

This thesis is dedicated to the memory of Glen Baines (21/03/1994-29/03/2021): a fierce and dear friend who loved the city of Manchester, and always stood up for what is right.

About the Author

Jessica Leather has a Bachelor of Science (Honours) degree in Applied Psychology from Liverpool John Moores University (LJMU). She also has a Master of Science degree in Health Psychology from LJMU. She worked as a research assistant in alcohol-related research at Edge Hill University, and as a volunteer research assistant in applied health research at LJMU prior to commencing this PhD.

Chapter 1 Introduction

Overview of Thesis

Self-harm, which constitutes any act of self-injury or self-poisoning irrespective of the individual's motivation, is a serious public health issue. The National Institute for Health and Care Excellence (NICE) provide guidelines about the assessment and management of self-harm aimed at all healthcare professionals in the United Kingdom (UK). Implementation of such guidelines is paramount to ensure patient safety, but evidence suggests that some healthcare professionals do not, or cannot, always implement them when they encounter a patient that has self-harmed. Although this represents a potentially dangerous risk to patients, there is currently a paucity of research exploring the reasons behind non-implementation of national guidelines for self-harm; there exist a small number of studies suggesting that insufficient education and skills training may explain low uptake of the guidance. Current understanding about the drivers underpinning healthcare professionals' practice in relation to self-harm is poor, resulting in a dearth of theoretically-driven intervention strategies to remediate the implementation gap.

To address this gap, this thesis takes a ground-up approach to intervention development, to improve implementation of national guidelines for self-harm. The thesis outlines the rationale for developing a quality improvement intervention, the process of garnering sufficient understanding of the drivers of healthcare professionals' practice, and the translation of the findings into an intervention to improve uptake of the NICE guidelines for self-harm.

Thesis Structure and Content

The thesis begins with an introductory chapter (Chapter 2), describing the research literature surrounding this topic to provide a rationale for intervention development. This is followed by an overview of the PhD research programme, its aims and objectives, and a description and critique of the methods (Chapter 3).

The results of this thesis are presented in the alternative (journal) format. This style of thesis means the five results chapters (Chapters 4-8) are presented in a format suitable for publication, or have already been published in peer-reviewed journals. During early discussions at the start of this programme of research it was agreed with the supervision team that the author would write up their research

findings in multiple, publishable research papers. The purpose of this was to allow the author to address different aspects of the overall aims of the PhD, and target their findings towards appropriate audiences in different journals. Considering the progress made in the early stages of this PhD regarding data collection and manuscript drafting, it was deemed appropriate and efficient to submit the thesis in an alternative format.

As a result, the author successfully published one paper (Chapter 4) in a peer-reviewed journal (*Journal of Psychiatric Research*), while another (Chapter 6) has been accepted for publication (in the *British Journal of Health Psychology*). Another paper (Chapter 5) is under review (at *The Journal of Mental Health*), and a further two (Chapters 7 and 8) are in preparation. This includes a qualitative research paper (Chapter 7) and an intervention development paper (Chapter 8). References for the published papers are included within each of the chapters. Figures and tables have been placed within the main body of the text, and renumbered for readability.

The thesis concludes with a general discussion (Chapter 9). This begins with a summary of the main findings of the individual results chapters within the thesis, then explores these findings in relation to previous research in this field. The chapter also explores the strengths and limitations of the methods selected to address the aims and objectives of the studies, and ends with potential avenues for future research.

The author was responsible for the design, delivery, analysis and write-up of all the research presented herein, with support from the supervisors of this PhD (CJA, NK, & SC). Therefore, they are listed as co-authors on the papers included in Chapters 4-8. ROC and LQ contributed to the design of the materials and commented on the draft of Chapter 4. CK contributed to data analysis and commented on the drafts of Chapters 6 and 7.

Chapter 2 Background and Literature Review

Overview of Chapter

This chapter provides an introduction to the key concepts underpinning this programme of research, and a critique of the background literature. In particular, this chapter establishes the context of self-harm as a public health issue, and the impact of the implementation gap between national guidance and professional practice relating to self-harm. The chapter concludes by considering the limitations of existing interventions to change professional practice in relation to self-harm.

Defining Self-harm

Evolution of terminology

The terminology used to describe self-harm behaviours is inconsistent, overlapping, and contentious, creating a central issue for the interpretation of self-harm research (Allen, 2007). Medical texts from the nineteenth century contain some of the earliest clinical references to self-harm, recording suicide attempts made without motivation for “self-destruction” (Millard, 2012, p.1). After World War Two, a burgeoning interest in the underlying motivations of behaviour led to discussions around the concept of suicidal intent among hospital-admitted survivors of suicide attempts (Stengel, 1952); this research area intensified following the decriminalisation of suicide in England and Wales in 1961. By the mid-twentieth century the discrete behaviours of repeated ‘self-poisoning’ (Kessel, 1965a, 1965b) and ‘self-injury’ (Graff & Mallin, 1967; Grunebaum & Klerman, 1967) had been described in research literature, marking an early departure from classifying self-harm behaviour solely within the context of suicide attempts.

Debates surrounding appropriate nomenclature ensued, resulting in the proposition of the label ‘parasuicide’ to unify research into self-inflicted behaviours which produced actual, or potential, bodily harm, including suicide attempts (Kreitman et al., 1969). However, this term was gradually superseded by ‘deliberate self-harm’, following a paradigm shift in the 1980s where self-harm was described in the literature less exclusively as a ‘cry for help’, and considered more broadly as a possible means of emotional regulation (Millard & Ougrin, 2017). The prefix ‘deliberate’ has mostly been discarded from contemporary literature in the UK and Western Europe, due to patient perceptions that the term is judgemental or pejorative

(O'Connor & Pirkis, 2016; Wilson & Ougrin, 2021). Nevertheless, discourse surrounding nomenclature evolved into attempts to classify self-harm and suicidal behaviour (Nock & Favazza, 2009; O'Carroll et al., 1996), generating a divide between researchers favouring the use of 'self-harm' as an all-encompassing term, versus the creation of sub-types to categorise self-harm by characteristics such as intent to die (Butler & Malone, 2013; Kapur, Cooper, et al., 2013), or extent of premeditation (Rawlings et al., 2015; Tang et al., 2011).

Self-harm, suicidal behaviour, and NSSI

A product of this dichotomy has been the term 'non-suicidal self-injury' (NSSI, also known as 'non-suicidal self-harm'; NSSH), which emerged as a means to refer to behaviours that involve deliberate, self-inflicted damage to one's own body, in the absence of suicidal intent (Nock & Favazza, 2009). Advocates argue that it grants diagnostic clarity and treatment specificity for those who self-harm but do not wish to end their life (Butler & Malone, 2013; Cleare et al., 2021); indeed, NSSI Disorder has since been included in the DSM-5 as a condition in need of further study (American Psychiatric Association, 2013). Support chiefly derives from qualitative evidence indicating that individuals distinguish between their own suicidal and non-suicidal behaviours (Laye-Gindhu & Schonert-Reichl, 2005; Polk & Liss, 2009), describe unique functions of NSSI (e.g.: emotional regulation) (Edmondson et al., 2016; Taylor et al., 2018), and the contrasting methods observed between NSSI and suicide attempts (Muehlenkamp & Kerr, 2010; Nock et al., 2006).

However, critics postulate that the term is misleading due to the strong association of NSSI with suicidal behaviour (Kiekens et al., 2018; Paul et al., 2015) and as a risk factor for suicide attempts (Whitlock et al., 2013), suggesting acts of self-harm purportedly undertaken without suicidal intent could still be characterised as suicidal behaviour. In terms of methods of self-harm, NSSI explicitly cannot include self-poisoning behaviour, which makes up a vast proportion of self-harm (Geulayov et al., 2018; Hawton et al., 2012); this is problematic because methods of self-harm can change over time, notably from cutting to poisoning (Birtwistle et al., 2017; Owens et al., 2015; Witt, et al., 2019). Furthermore, evidence demonstrating ambivalent intent challenges the assertions that intention to die is a fixed characteristic of self-harm episodes (Dennis et al., 2007; Gee et al., 2020); rather,

suicidal intent is more accurately conceptualised as a fluid continuum, supported by evidence indicating the dimensionality of NSSI and suicidal self-harm (Orlando et al., 2015).

Since self-harm can be characterised by a range of motivational and volitional factors, ‘self-harm’ remains a parsimonious term applicable across self-harm research and clinical practice (O’Connor, 2011). The term encapsulates the array of behaviours that can be considered self-harm, including potentially lethal behaviours (e.g.: poisoning or cutting), typically non-lethal behaviours that result in tissue damage (e.g.: carving, burning, or interfering with wounds), and behaviours that may not lead to visible injury (e.g.: hitting or punching) (Morgan et al., 2017; Skegg, 2005; Zetterqvist, 2017). Therefore, this thesis will use the phrase ‘self-harm’ throughout in accordance with the definition provided in UK national guidelines, namely: “any act of self-poisoning or self-injury carried out by an individual irrespective of motivation” (NICE, 2011, p.4).

Self-harm in the UK

Self-harm prevalence

The prevalence of self-harm has increased in the UK since the 2008 economic recession, most notably among middle-aged men (Clements et al., 2019; Ibrahim et al., 2019), adolescent girls (Morgan et al., 2017), and young women (Gillies et al., 2018; McManus et al., 2019). Estimates based upon multicentre data suggest there over 220,000 presentations to emergency departments annually in England, with an associated cost of £128.6 million for hospitals (Hawton et al., 2007; Tsiachristas et al., 2020). Repeat self-harm attendance in A&E is particularly common (Perry et al., 2012); between 16-19% of index episodes of self-harm are followed by repeat self-harm within a year, rising to 23-33% over subsequent years (Lilley et al., 2008; Owens et al., 2002). Annual incidence of self-harm in primary care is estimated to be 12.3 and 17.9 per 10,000 male and female patients respectively (Carr, Ashcroft, Kontopantelis, Awenat, et al., 2016), but is dramatically higher amongst adolescent girls at 37.4 per 10,000 (Morgan et al., 2017). Community incidence of self-harm is characterised by an ‘iceberg’ model, wherein the majority of self-harm episodes go unrecorded (Geulayov et al., 2018; McMahon et al., 2014); self-report measures indicate that 59.4% of people who self-harm do

not follow-up with service contact (McManus et al., 2019). However, estimates from community samples such as the Adult Psychiatric Morbidity Survey indicate that 7.3% of UK adults have a lifetime history of self-harm (McManus et al., 2016), compared to 19.6% of adolescents from a UK cohort study (Irish et al., 2019).

The high proportion of people that do not present to services following self-harm means that the prevalence of self-harm is difficult to determine (McMahon et al., 2014; Morgan et al., 2017; Geulayov et al., 2018). Data obtained from clinical records is dependent on patient help-seeking and disclosure to healthcare professionals, which can be problematic in the face of potential hostility (MacDonald et al., 2020) and stigmatising attitudes (Lloyd et al., 2018). Furthermore, medical records are subject to inconsistent diagnostic coding between practitioners, services, and healthcare trusts (Carr, Ashcroft, Kontopantelis, Awenat, et al., 2016; Carr et al., 2021), in addition to clinical judgement and interpretation (Bethell & Rhodes, 2009; Gardner et al., 2020). Local area data from emergency departments suggest a vast underestimation of self-harm admissions and attendance when compared to records from national A&E databases, which is particularly concerning considering that self-harm records are not routinely audited (Clements et al., 2016; Cooper, Steeg, Bennewith, et al., 2013).

Although self-reported data can provide some insight into the extent of ‘hidden’ self-harm in the community (O’Connor et al., 2018), it is also subject to inconsistencies such as forgetting and reticence to disclose (Watanabe et al., 2012). This was demonstrated by a prospective study comparing hospital-defined and self-reported self-harm from a single A&E department over 5 years, where 65% of patients with hospital-recorded self-harm episodes denied having ever self-harmed, in contrast to 72% of patients who had no hospital-recorded episodes but reported self-harming (Mitchell et al., 2016). Given the volume of presentations to different services for self-harm, there are valuable opportunities for a range of healthcare professionals to identify and respond to self-harm in settings beyond the reach of specialist mental health services (Cross & Clarke, 2022; Sayal et al., 2014).

Self-harm following the COVID-19 pandemic

Disruption and morbidity caused by the COVID-19 pandemic has raised concerns about rates of self-harm and suicide worldwide (Gunnell et al., 2020; Xin et

al., 2020). The ramifications of the pandemic and associated suppressive measures on self-harm trends and healthcare provision in the UK are still emerging, but tentatively suggest that COVID-19-related factors such as fear (Keyworth et al., 2022), adversity (Paul & Fancourt, 2022), and reduced service contact (Hawton, Lascelles, et al., 2021) influenced self-harm behaviours. Help-seeking for self-harm and mental distress was high, particularly from charity helplines and online services (Centre for Mental Health, 2020; Samaritans, 2021). Meta-analysis of self-reported cross-sectional data indicates that an average of 10% of people self-harmed during the initial global lockdown period (Dubé et al., 2021), however, a living systematic review has thus far found no consistent evidence of an increase of self-harm as a result of the pandemic (John et al., 2021). While there remains a dearth of longitudinal evidence to describe community self-harm over the course of the pandemic, studies have captured changes in healthcare utilisation for self-harm since March 2020.

The introduction of government-mandated measures during this period was associated with an initial decline in recorded presentations for self-harm in hospitals (Hawton, Casey, et al., 2021; Shields et al., 2021) and primary care (Carr et al., 2021; Steeg et al., 2021). Researchers have interpreted the reduction of clinically recorded self-harm as a reflection of public perceptions about the accessibility of healthcare, more so than a lack of demand (Kapur et al., 2021; Steeg et al., 2021). Although recent evidence demonstrates that the transition to remote consultations in primary care did not negatively impact consultation and prescribing patterns for self-harm compared to pre-pandemic levels, a significant drop in referrals to mental health services was observed (Steeg et al., 2022). As a result, there are concerns that patients who have self-harmed have not received psychosocial assessments from mental health professionals to guide their care needs (Allan et al., 2012; Hawton, Casey, et al., 2021). The impact of COVID-19 is of importance to researchers, healthcare professionals, and policymakers in public health, who must consider the longer-term consequences of changes to service delivery and patient needs when identifying future priorities for self-harm care.

Self-harm and Health

Consequents of self-harm

Self-harm is inherently distressing for the recipient (Cairns et al., 2019) and for the professionals managing the outcomes of self-harm (O'Connor & Glover, 2017). Beyond short-term physical consequences such as wounding (Ousey & Ousey, 2012) and poisoning (Chew-Graham et al., 2019), there are longer-term deleterious consequences of self-harm on mental health and wellbeing (Morgan et al., 2017; Troya, Babatunde, et al., 2019). Despite prominent use of self-harm as a means of emotional regulation and expression, longitudinal evidence suggests that increasing distress is a common consequent of self-harm in adolescents (Buelens et al., 2019). Hospital attendance for self-harm is associated with risk of repeat self-harm (Cheung et al., 2017; Larkin et al., 2014); the risk is greater among those least likely to receive psychosocial assessment (Stegg et al., 2018). By far the most important consequence of self-harm is an elevated risk of all-cause mortality (Nav Kapur et al., 2015; Morgan et al., 2017), most strongly for death by suicide (Carroll, Thomas, et al., 2016; Vuagnat et al., 2020). Long-term population trends in self-harm are closely associated with rates of suicide (Geulayov et al., 2016), resulting in the growing prominence of self-harm as a key area in national suicide prevention strategies (Mackley, 2018; HM Government, 2019). Resultantly, research, policy, and professional practice have prioritised the prevention of repetition (Saunders & Smith, 2016) and lethal outcomes following self-harm by identifying opportunities for intervention (Ougrin et al., 2015).

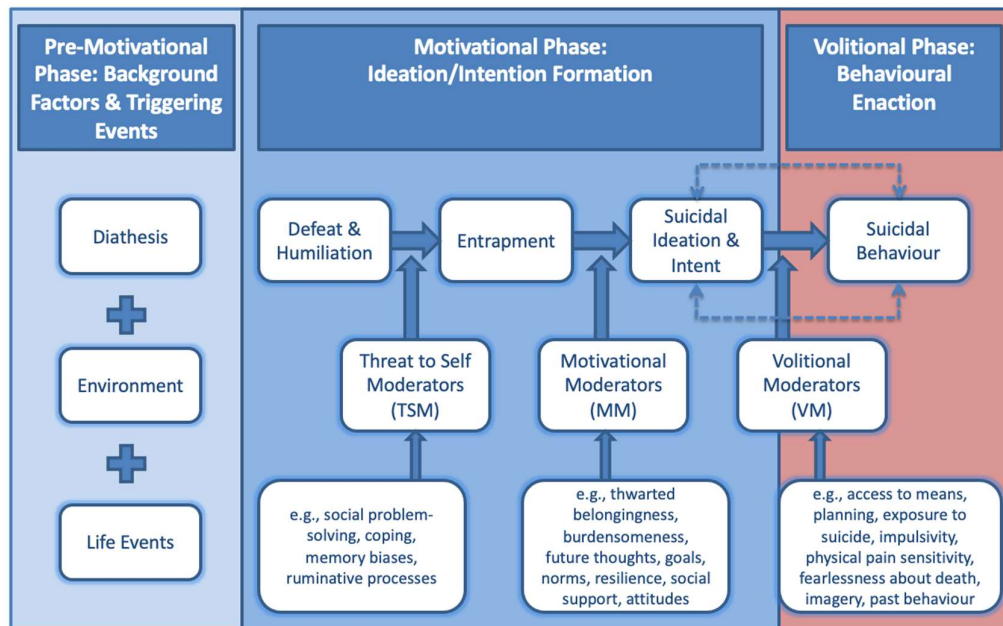
Predictors and correlates of self-harm

Self-harm is a complex and multifaceted behaviour, therefore, a patient-centred approach to assessment and management must recognise a range of antecedents that can cause an individual to harm themselves in both clinical and community populations (NICE, 2011; O'Connor, 2011). In addition to the association of age and gender with self-harm risk as mentioned briefly in the previous section (Hawton & Harriss, 2008; Plener et al., 2015), an array of clinical, demographic, psychosocial, and environmental factors can contribute to self-harm risk (O'Connor & Nock, 2014). There are a number of theoretical models that have attempted to identify and describe the factors that precede self-harm and suicidal

behaviour, in order to identify opportunities for prevention and intervention (Díaz-Oliván et al., 2021). Older theories identified potential motivators underlying suicidal behaviour, such as emotional pain (Shneidman, 1993), hopelessness (Abramson et al., 1989), or interpersonal communication (Farberow & Shneidman, 1961; Kreitman et al., 1969). More modern ideation-to-action frameworks, such as the Interpersonal Theory of Suicide (Joiner, 2005), Three-Step Theory (Klonsky & May, 2015), and Fluid Vulnerability Theory (Rudd, 2007) have attempted to distinguish between the processes that influence suicidal ideation, and those that bridge the intention-behaviour gap towards suicidal behaviour (Klonsky et al., 2018).

The Integrated Motivational-Volitional (IMV) model of suicidal behaviour (presented in Figure 2.1) is one such ideation-to-action framework, which theorises that the combination of biosocial vulnerability factors with stressful life events can lead to suicidal ideation and behaviour (O'Connor, 2011; O'Connor & Kirtley, 2018). Over the following paragraphs, the IMV model is used as a framework to illustrate the breadth of factors that can contribute to self-harm and suicidal behaviour. For example, background factors such as adverse childhood events (Rahman et al., 2021; Russell et al., 2019), relationship difficulties (Townsend et al., 2016), and trauma (Dyer et al., 2013) are highly comorbid with self-harm (Fliege et al., 2009). This risk is elevated in combination with behaviours such as misuse of alcohol (Doyle et al., 2016; Ness et al., 2015) or illicit drugs (Colledge et al., 2020). Psychological distress associated with anxiety, depression, and other mental health difficulties is also a key risk factor for self-harm (Barnicot & Crawford, 2018; Hawton et al., 2013).

Figure 2.1: The IMV model of suicidal behaviour (reproduced from O'Connor & Kirtley, 2018). Protected by copyright.



Additionally, analysis of primary care data revealed that people with comorbid self-harm and physical illnesses had elevated risk for repeat self-harm (Webb et al., 2012); while much of this relationship could be explained by comorbid depression, there remained an independent dose-response relationship between self-harm risk and increasing numbers of physical illnesses. Moreover, a separate study observed an increased risk between hospitalisation for physical illnesses and subsequent suicide risk (Qin et al., 2013). In addition to these clinical complexities, a range of non-clinical factors can contribute to self-harm risk in community samples. The impact of adverse socio-economic circumstances on self-harm risk has been well documented (Cairns et al., 2017; Carroll et al., 2017), most prominently in the aftermath of the global economic recession (Hawton et al., 2016). Men working in low-skilled jobs such as construction have a higher risk of suicidal behaviour, potentially due to associations with low control, monotony and job insecurity (Windsor-Shellard & Gunnell, 2019). Further to this, rates of self-harm are greater in areas of high unemployment and social deprivation relative to the general population (Hawton et al., 2016; Polling et al., 2019). These background factors and life events create vulnerabilities that confer elevated risk for suicidal ideation to occur.

However, the IMV model stipulates that motivational factors prompt the transition towards suicidal ideation; feelings of entrapment determine an individual's intention to engage in self-harm as a response to life circumstances (Clarke et al., 2016; O'Connor & Portzky, 2018; Rasmussen et al., 2010). Hopelessness and resilience are particularly salient risk factors for self-harm due to their respective deleterious and protective ability for coping with suicidal ideation (Gooding et al., 2017). A prospective cohort study found that hopelessness exacerbates the existing risk associated with factors such as homelessness, unemployment, living alone, alcohol misuse and psychiatric treatment (Steed et al., 2016). The negative cognitive biases associated with depression and anxiety, such as rumination and emotion-focused coping, act as threats to self-moderators that contribute to feelings of entrapment (Glazebrook et al., 2016; Guerreiro et al., 2013; Slee et al., 2008). Over and above geographic measures of disadvantage, a lack of belonging and social identity uniquely contributes to self-harm risk (McIntyre et al., 2021). Membership of groups that experience social rejection, including subcultures (Hughes et al., 2018), sexual and gender minorities (Gnan et al., 2019; Williams et al., 2021), and ethnic minorities contributes to elevated risk of self-harm due to a cycle of marginalisation, thwarted belongingness (Cawley et al., 2019) and exposure to situational stressors (Rehman et al., 2020). In addition to vulnerability to self-harm, minority groups may not have sufficient access to health services due to stigma and isolation (Baldwin & Griffiths, 2009; Chang et al., 2015; Cooper, Steeg, Webb, et al., 2013). Feelings of burdensomeness, loneliness, and loss of control are common motivational moderators particularly amongst older adults that self-harm (Troya, Babatunde, et al., 2019; Troya, Dikomitis, et al., 2019).

Finally, volitional factors such as access to means and impulsivity bridge the intention-behaviour gap (Sniehotta et al., 2007), and drive the cyclical transition between suicidal ideation to self-harm (Dhingra et al., 2016; O'Connor et al., 2012). The IMV model identifies past behaviour and exposure to suicidal behaviour as two of eight key volitional moderators that can contribute to self-harm behaviour (Dhingra et al., 2015; Melson & O'Connor, 2019). A strong predictor of self-harm is a prior history of self-harm (Kawahara et al., 2017); risk of repeat self-harm is higher for patients with a history of self-cutting compared to those who self-poison (Cully et al., 2019). Longitudinal evidence indicates a relationship between exposure to

family members' self-harm and subsequent self-harm (del Carpio et al., 2021). Although impulsivity has been found to be associated with self-harm, the relationship is mediated by depression and anxiety symptoms, supporting the contribution of both motivational and volitional factors to self-harm behaviours (Lockwood et al., 2017; Rawlings et al., 2015).

These risk factors are by no means exhaustive; the IMV model is constantly being refined, with potential additions such as desire for control as an additional motivational moderator for entrapment (Saint-Cyr et al., 2022). The IMV provides a structure for identifying potentially modifiable targets for assessment and treatment depending on which stage of the mode an individual is in (O'Connor & Kirtley, 2018). Furthermore, in order to critically appraise the content and implementation of clinical practice guidance for self-harm care, it is essential to acknowledge that healthcare professionals are unlikely to address self-harm behaviours in isolation from their underlying issues (Large et al., 2017; Mughal et al., 2020). By reviewing the multifarious variables associated with the onset and maintenance of self-harm, a more accurate context can be established about the ways in which healthcare professionals are likely to encounter and respond to patients who self-harm (Goodwin et al., 2021; Kilty et al., 2021).

National Guidelines for Self-harm

The context of UK health policy for self-harm

Due to the heterogenous factors that cause people to self-harm, there is no single specific model of care for self-harm (National Guideline Alliance, 2022). Instead, healthcare policies for self-harm in the NHS have largely been developed as a component of national suicide prevention strategies over the past decade (HM Government, 2012, 2019). Updates to The National Suicide Prevention Strategy (Department of Health, 2017) and the NHS Long Term Plan (NHS England, 2019) have gradually placed more emphasis on self-harm as a public health issues in its own right by highlighting the needs of people with a history of self-harm, and refining mental health care pathways (NHS England, 2016a). A shift towards 'whole-person' approaches led to the development of the Vanguard model of integrated care, which aimed to improve linkage between hospital and primary mental health care by establishing service clusters (Naylor et al., 2017). Such

integrated approaches are intended to redress communication inefficiencies between primary and secondary services as a result of traditional fragmented care structures (Leavey et al., 2017).

The growing recognition of self-harm as a patient safety priority (Morris et al., 2018; NHS England, 2016a; Quinlivan et al., 2020) has prompted interest in preventing avoidable harm by implementing quality standards (NHS England, 2021; Panesar et al., 2016). One strategy to achieve this was the introduction of a national Commissioning for Quality and Innovation (CQUIN) scheme, a payment framework to encourage service providers to continually improve the quality of care (NHS England, 2016b). A CQUIN was developed to incentivise mental health liaison services to improve the provision of comprehensive biopsychosocial assessments following self-harm, in accordance with guideline recommendations (NHS England, 2020, 2022). While there are currently no equivalent systems for self-harm in primary care under the Quality and Outcomes Framework, propositions have been made to incorporate national guidance into primary care-specific suicide prevention models (Mughal et al., 2020). Approaches to implement national health policies or guidelines are examples of quality improvement interventions. A quality improvement intervention is a strategy to improve care delivery in healthcare settings (Hempel et al., 2011).

NICE guidance for the assessment and management of self-harm

National Institute for Health and Care Excellence (NICE) guidelines are evidence-based recommendations for health and social care professionals (NICE, 2014). The objectives of the guidelines are to prevent ill health, promote and protect good health, improve the quality and care of services, and adapt and provide health and social care services (NICE, 2022). Professionals and practitioners are advised that applying the guidelines is not mandatory, and are not intended to override processes of clinical decision-making; rather, the guidelines should be fully taken into account *as part of* professional judgement, depending on the needs, preferences, and values of individual patients. There are two published NICE guidelines for the assessment and management of self-harm in people over 8 years old: short-term management and prevention of recurrence (NICE, 2004), and long-term management (CG133) (NICE, 2011) (displayed in Table 2.1). A quality standard for self-harm

followed, comprising 8 statements that mark high-priority areas for quality improvement to ensure high-quality, cost-effective patient care.

Table 2.1: NICE guidance relating to self-harm

Title of guideline or quality statement	Publication date
Self-harm in over 8s: short-term management and prevention of recurrence [CG16]	28 July 2004
Self-harm in over 8s: long-term management [CG133]	23 November 2011
Self-harm [QS34]	28 June 2013
Self-harm: assessment, management and preventing recurrence [GID-NG10148]	In development (publication expected in July 2022)

A summary of key areas for implementation from the guidelines is presented in Table 2.2. General principles of care underpin the recommendations in an attempt to counteract the potential negative influence of stigma and insensitivity towards patients who self-harm. The guidelines emphasise that healthcare professionals must uphold care, respect, and privacy for patients, and empower them to be involved in decision-making for their care. Adequate training is advised for any staff member (including non-health and non-clinical staff) that may come in to contact with patients who self-harm. Ambulance, emergency department, and mental health specialist staff have specific guidance on medical and surgical triage, treatment, and management issues for the short-term following a self-harm episode. On the other hand, primary care professionals have a responsibility to assess the risk and needs among patients who self-harm, to determine the need for referral to emergency or specialist mental health services.

Central to self-harm care and universally relevant across healthcare professions and settings is the provision of psychosocial assessment to all patients who have self-harmed: these assessments of needs and risk must be conducted by specialist mental health professionals. As a result, non-mental health professionals must organise internal or external referrals depending on the setting where a patient

has presented to ensure the assessment takes place. Comprehensive psychosocial assessments form the foundation of longer-term care planning, treatment, and referral recommendations for patients. Longer-term recommendations outline potential interventions, services, and management plans which are advised to be produced with input from the patient and their family and carers.

Table 2.2: Summary of key areas for implementation from the NICE guidelines for self-harm

Short term [CG16]	Long term [CG133]
Respect, understanding and choice	Working with people who self-harm
Staff training	Psychosocial assessment
Activated charcoal	Risk assessment
Triage	Risk assessment tools and scales
Treatment	Care plans
Assessment of needs	Risk management plans
Assessment of risk	Interventions for self-harm
Psychological, psychosocial and pharmacological interventions	Treating associated mental health conditions

A number of ‘do not do’ prompts are contained within the long-term guideline; these practices are recommended to be discontinued or not used routinely in NHS clinical practice (Nottinghamshire Healthcare NHS Trust, 2013). Firstly, professionals are cautioned against the use of risk assessment (also described as ‘risk screening’) tools to predict repeat self-harm, predict suicide risk, or to guide treatment and discharge decisions (Undrill, 2020). Pharmacological treatment is also discouraged as an intervention to reduce self-harm. Secondly, the guideline advises against the use of tricyclic antidepressants (and other drugs that are highly toxic in overdose) to treat mental health conditions associated with self-harm.

An updated self-harm guideline has been in development since 2019, which will unify recommendations into a single guideline for assessment, management and

preventing recurrence (GID-NG10148) (NICE, 2022b). In brief, proposed updates outlined in the consultation-stage draft guideline place further emphasis on the provision of comprehensive psychosocial assessments after an episode of self-harm, and provide clearer assessment guidelines for non-specialist professionals. Training and supervision responsibilities have been expanded in response to the needs of specialist and non-specialist staff, to improve the consistency and continuity of care between services. Key safety improvements include updated intervention and prescribing options, changes to admission and discharge recommendations, and greater information provision and involvement for patients, their family members, and carers. Since this guideline is still in development, the following sections will review literature in relation to the two published guidelines.

Limitations of the NICE guidelines for self-harm

Clinical practice guidelines are a valuable tool to facilitate cost-effective, evidence-based practice, but they are not without limitations (Drummond, 2016; Pitman & Tyrer, 2008). The NICE guidelines for self-harm were developed based on the available best evidence at the time of their publication, including systematic reviews of randomised controlled trials, and meta-analyses of treatment effects (Kendall et al., 2005). However, queries have been made about the strength of the evidence base considered by the development committees, since some recommendations in the guidance for medical and surgical care are based on evidence from as few as two studies (e.g.: triage systems). There is an absence of empirical evidence to endorse the use of controversial harm minimisation strategies (e.g.: snapping a rubber band on one's arm instead of self-cutting) which are recommended in the guidance (Wadman et al., 2019). Moreover, the guidance for self-harm risk assessment was largely derived from cross-sectional data, which gives no indication of clinical utility over time (NICE, 2004). An additional critique levied towards the guidance is that in the absence of high-quality evidence, recommendations are made based on the development committee's own experiences and expertise; this may be subject to bias, despite NICE's policy to ensure disclosures of conflicts of interest (Graham et al., 2015; Kane, 1995; Kapur, 2005). The paucity of implementation research evidence has been partially addressed in the updated long-term self-harm guidelines (NICE, 2011) as more data became available, and prompted the inclusion of more prospective cohort studies and

routinely collected ‘real world evidence’ from sources such as the Clinical Practice Research Datalink (CPRD) (Oyinlola et al., 2016).

The growing availability of self-harm research literature over the past decade (e.g.: Witt, Townsend, et al., 2019; Witt et al., 2021a) has been incorporated into the forthcoming revised guideline, but the poor quality of some of this evidence (i.e.: relating to patient safety after self-harm) according to the GRADE system of evaluation (Alonso-Coello et al., 2016; Thornton et al., 2013) raises concerns about imprecision of NICE’s recommendations. Use of the GRADE system to evaluate evidence for other mental health-related guidelines has been criticised, because of potential inflexibilities comparing the quality of different treatments across varying outcome measures (McPherson et al., 2018). Since evidence is largely collected from clinical patient groups, there are implications that study evidence used as a basis for the guidelines may not be generalisable to other settings, such as primary and community care (Scullard et al., 2011). Further to this, arguments have been put forward that the process of evaluating evidence for mental health-related NICE guidelines employs a reductionist medical model that misrepresents the nuances of evidence for the effectiveness of psychological therapies, such as the role of therapeutic alliance (Guy et al., 2012; Mollon, 2009). For example, recent systematic reviews of psychodynamic interventions for adults and children indicate that such therapies do not reduce repetition of self-harm (Witt et al., 2021b, 2021c), despite promising evidence from small-scale trials of psychodynamic interpersonal therapies demonstrating reduced self-harm (Guthrie et al., 2001; Sobanski et al., 2021) and reduced distress (Taylor et al., 2021). Finally, despite outlining key areas for implementation, there are no clear strategies to enable or evaluate implementation within the guidance, which creates ambiguities for providers on how to change practice and service provision (Kendrick & Peveler, 2010).

Implementation of NICE Guidelines for Self-harm

Research evidence describing the implementation gap

Implementation of national guidance is crucial to ensure patient safety and evidence-based practice, however, the availability of research literature evaluating rates of guideline implementation for self-harm is limited. This is partly due to the volume of recommendations in the guidance relating to different aspects and services

for self-harm care. As such, many studies evaluate the implementation of a single recommendation, such as psychosocial assessment provision (Carroll et al., 2016; Cooper et al., 2013; Steeg et al., 2018). Other studies evaluate clinical management following self-harm more broadly, by capturing several outcomes (Carr, Ashcroft, Kontopantelis, While, et al., 2016; Wand et al., 2022). Evidence of guideline implementation is often inferred from studies that measure risk factors for self-harm repetition and suicide (Murphy et al., 2012), or examine the effectiveness of treatments or management strategies for self-harm (Arensman et al., 2018; Hetrick et al., 2016). Such studies have identified non-implementation of admission to hospital for children following self-harm (Geulayov et al., 2022), and low referral rates to secondary mental health services (Young et al., 2020), particularly among older adults (Morgan et al., 2018; Murphy et al., 2012). Since these areas of implementation are primarily subject to service availability, the following sections will review the available evidence relating to the implementation of four key areas of the NICE guidelines for self-harm which may be amenable to change through interventions: general principles of care, provision of psychosocial assessment, use of risk screening tools, and unsafe prescribing.

General principles of care

A systematic review of clinician attitudes towards self-harm indicates that many hospital staff hold negative attitudes towards people who self-harm, and express feelings of hostility and therapeutic nihilism towards patients (Saunders et al., 2012). Meta-analysis of nursing staff working in emergency departments found that antipathy towards self-harm patients is prevalent (Rayner et al., 2019). Feelings of apprehension and professional negativity are even common towards children and young people who self-harm (Ribeiro Coimbra & Noakes, 2021). While there is not an explicit link between attitudes and nonadherence to the guidelines, there is a notable concordance between adverse attitudes and non-standard treatment of self-harm. Questionnaire data from healthcare professionals working in burns and plastic surgery units of major trauma centres found that one-fifth of staff offered surgical care (e.g.: skin grafts) to self-harm patients less frequently than to patients with equivalent accidental injuries (Heyward-Chaplin et al., 2018; Rai et al., 2019), which is inconsistent with the recommendations of the guidelines that people should be offered treatment for their wounds regardless of the cause. Additionally, some

clinicians differentiate their treatment by behaving more empathically towards patients with certain characteristics, such as younger age and female gender (Saunders et al., 2012).

Qualitative evidence from patients reveals further discrepancies in the provision of care for self-harm (Lindgren et al., 2018). A systematic review of 31 international studies of patients who have self-harmed found that negative care experiences and inappropriate staff behaviour were common (Taylor et al., 2009). A qualitative survey of patients and carers that have experienced psychosocial assessments following self-harm showed that many patients experience pervasive negative attitudes and comments about their self-harm, which sometimes contributed to increased distress and iatrogenic harm (Quinlivan et al., 2021). Pervasive negative attitudes and misconceptions about self-harm among staff not only compromises empathic, respectful patient care, but may also indicate a widespread lack of training and education about self-harm, which is also contrary to the expectations of the NICE guidelines (Koning et al., 2018; Worrall & Jeffery, 2017). Knowledge gaps regarding explanations and causes of self-harm, in addition to the forms and functions of self-harm contribute to negative perceptions and hampers the development of meaningful therapeutic relationships (Masuku, 2019; Ribeiro Coimbra & Noakes, 2021).

Psychosocial assessment

Comprehensive psychosocial assessments are essential to determine each individual's needs, risk characteristics, and appropriate care pathway following self-harm (NICE, 2004, 2011). However, implementation of such assessments has an unclear impact on patient outcomes (Kapur et al., 2015). According to a meta-analysis of 64 prospective studies of UK hospital management of self-harm, provision of psychosocial assessment was not associated with decreased incidence of repeat self-harm (Carroll et al., 2014). Furthermore, two multicentre cohort studies of self-harm presentations to 31 UK hospitals found no association between psychosocial assessment and repeat self-harm risk at six month follow-up, even after controlling for potential covariates (such as age, gender, and previous self-harm) (Cooper et al., 2015; Steeg et al., 2018). In contrast, analysis of observational data from a different multicentre cohort of 35,938 individuals over a ten-year period

found that psychosocial assessment was associated with a 40% reduction in repeat self-harm risk after accounting for demographic characteristics (Kapur, Steeg, et al., 2013). More recent evidence indicates that patients who receive a psychosocial assessment have a lower risk of repeat hospital attendance for self-harm than those who do not (Steeg et al., 2018). Despite some flaws in the evidence base, there is a general consensus that the provision of assessments remains a vital component of best practice for self-harm (Leckning et al., 2020).

Unfortunately, contrary to the NICE guidelines, many patients do not receive psychosocial assessment after self-harm (Da Cruz et al., 2011). Between 22-88% of hospital-presenting self-harm episodes receive a psychosocial assessment from a mental health professional (Cooper, Steeg, Bennewith, et al., 2013). According to a multicentre study of 6 urban hospitals, adults who self-harm are less likely to receive a psychosocial assessment and support from mental health services compared to those who self-poison (Lilley et al., 2008). More recent data indicates that people who self-injure in concealed locations are less likely to receive psychosocial assessment than those who injure more visible body sites (Gardner et al., 2020). Furthermore, 17% of children under 13 who have self-harmed do not receive a psychosocial assessment after their first presentation to hospital (Geulayov et al., 2022). Among adolescents aged 13-19 from the same multicentre observational cohort, patients from minority ethnic backgrounds were less likely to be offered a psychosocial assessment than their White counterparts (Farooq et al., 2021). Qualitative evidence indicates that patients are denied assessments due to intoxication, or perceived medical fitness to be assessed against the recommendations in national guidance (Quinlivan et al., 2021). These findings demonstrate a serious implementation gap of the NICE guidelines at the initial stage of a patient's self-harm care.

'Do not do' guidance

Use of risk screening tools

In addition to implementing best practice, the guidelines advocate for the de-implementation of potentially harmful practices. Despite clear guidance to not use screening tools to predict future self-harm or to decide care, their use is widespread and new scales are continuing to be developed (Fazel et al., 2019; Quinlivan et al.,

2014; Randall et al., 2011). There are growing concerns that the use of artificial intelligence and machine learning models to detect self-harm risk may be subject to the same fallacies as risk screening tools (Kirtley et al., 2022). Meta-review evidence indicates that scales tend to fall into extremes of sensitivity and specificity; those that are highly sensitive (proportion who repeat self-harm identified as high risk) tend to have poor specificity (proportion who do not repeat self-harm correctly identified as low risk), and vice-versa, leading to poor positive predictive value (Carter et al., 2017; Chan et al., 2016). As such, the scales have limited clinical utility for self-harm and are likely to waste resources (Quinlivan et al., 2016; Quinlivan et al., 2017). Although they may have some use in priority screening for urgent care in conjunction with comprehensive assessment (Steeg et al., 2018), this approach is unlikely to be cost-effective compared to psychosocial assessment alone (McDaid et al., 2022; Quinlivan et al., 2019).

Unsafe prescribing

A key safety concern in the guidance is the prescription of tricyclic antidepressants and other medications that can be fatally toxic when taken in overdose (Hawton et al., 2010). However, evidence following the publication of this guidance indicates that tricyclics are still commonly prescribed to adults who self-harm. Data from a Clinical Practice Research Datalink (CPRD; a database of general practice records) cohort found that 8.8% of adults were prescribed tricyclic medication within a year of an index self-harm episode, and prescribing trends increased over the 12-year study period (Carr, Ashcroft, Kontopantelis, While, et al., 2016). Furthermore, analysis of older adults' records from this database revealed that 11.8% of adults aged 65 or over were prescribed tricyclic antidepressants within a year of their initial self-harm episode (Morgan et al., 2018). This is particularly dangerous because older people are more likely to self-poison, and have higher mortality following self-poisoning than younger adults (Doak et al., 2009).

Beyond prescribing of tricyclics, there are mounting concerns about over-prescribing psychotropic medications to people that have self-harmed; for instance, 9.9% of patients in the adult CPRD cohort were prescribed psychotropics with no prior psychiatric diagnosis, or referral to mental health services (Carr, Ashcroft, Kontopantelis, While, et al., 2016). Self-poisoning, self-harm repetition, and suicide

risk is greater among patients who are prescribed multiple psychotropic drugs (Cully et al., 2019; Windfuhr et al., 2016). Taken together, these findings indicate dangerous prescribing practices in primary care, due to non-implementation of ‘do not do’ guidance. This makes primary care an important target for implementation strategies to prevent self-harm repetition; since patients consult frequently in primary care following self-harm, there are many potential opportunities for intervention (Carr et al., 2017; Gunnell et al., 2002).

Methodological limitations of implementation evidence

The evidence above provides an indication of which aspects of the NICE guidelines for self-harm are not adhered to, but suffers from notable methodological shortcomings. The qualitative evidence into staff attitudes relies on retrospective self-reports which may be subject to desirability biases, and do not necessarily provide an accurate representation of actual behaviour (Rai et al., 2019). Most of the evidence base involves hospital-presenting self-harm, which may not represent the majority of self-harm care in the health system (Lilley & Owens, 2009). Of the evidence relating to primary care, CPRD data may be limited by a lack of data-sharing about the uptake of referrals, provision of psychological therapies, and does not provide an indication about whether a patient was already under the care of mental health service prior to their index self-harm episode (Morgan et al., 2018; Tiffin et al., 2019). These additional factors may influence whether or not assessments and prescriptions are necessary to conduct in primary care following a self-harm episode, and might not be a reflection of poor implementation (Carr et al., 2017).

Further limitations are noted in the evidence base surrounding the implementation of psychosocial assessments. Firstly, the evidence relating to psychosocial assessments was primarily obtained from observational cohort studies which are vulnerable to confounding by indication (Cooper et al., 2015); for example, patients with life-threatening self-poisoning incidents are more likely to receive a psychosocial assessment than those whose injuries are perceived to be superficial (Lilley et al., 2008). As such, the medical seriousness of self-harm and its underlying factors (such as intent) may affect subsequent attendance and repeat self-

harm over and above the influence of the psychosocial assessment (Carroll et al., 2014).

Secondly, follow-up service contact is rarely captured to understand the wider service context following assessment, such as referral or receipt of treatment, which is likely to have had therapeutic benefits (McDaid et al., 2022). Thirdly, the above studies offer no measure of the quality or procedure of psychosocial assessments, so cannot indicate whether assessment quality influenced patient outcomes (Lilley & Owens, 2009; Pitman & Tyrer, 2008). This is important because the provision of assessments varies widely between sites (Cooper et al., 2015; McCann et al., 2006). For example, a study of 15 major trauma centres found that only 8 hospitals routinely documented assessments in patient notes, and only 3 of the hospitals *always* conducted assessments prior to transfer for wound care (Stallard et al., 2022). Preliminary evidence suggests that basic information such as prior self-harm, wound site, and psychiatric history are missing from up to 20% of patient records (Geulayov et al., 2021).

Thirdly, measuring repeat self-harm and repeat attendance to services following self-harm as main outcomes are inherently flawed measures of successful implementation (Evans et al., 2022; Owens et al., 2010). Hospital-treated episodes of self-harm do not provide a reliable measure of self-harm post-attendance since most episodes of self-harm are concealed from health services. Multicentre study data is particularly vulnerable to gaps in hospital attendance, because patients may present to non-hospital services, or a hospital outside the designated study sites (Lilley et al., 2008). Furthermore, low re-attendance for self-harm is not necessarily an indicator of a positive patient outcomes. Re-presentation may indicate that the patient had a positive experience of services and feels safe enough to re-attend during a time of heightened distress (Cooper et al., 2015). Likewise, poor attendance may reflect poor engagement or satisfaction with services (Pitman & Tyrer, 2008). Further to this, clinically-recorded self-harm is an infrequent outcome, meaning studies are often underpowered to detect meaningful differences in self-harm outcomes (Lilley et al., 2008; Lilley & Owens, 2009). As a result, initiatives to improve implementation of the NICE guidelines may need to consider novel measures of quality to avoid erroneously relying on measures of presentation and service-recorded rates of self-harm as proxy measures for service quality.

Behavioural drivers of guideline implementation

This review has identified multiple areas of clinical practice where the NICE guidelines for self-harm are not always implemented. The reviewed studies indicate that barriers may contribute to non-adherence, such as deficits in healthcare professionals' skills, knowledge, and attitudes towards people who self-harm. However, the level of understanding about the barriers preventing healthcare professionals from implementing the guidelines, and the potential enablers to facilitate implementation, is currently poor. There is evidence to suggest that a lack of education and skills training contributes to low uptake of the guidance (Heyward-Chaplin et al., 2018; Mullins et al., 2010). However, knowledge (e.g. psychological capability) and skills (e.g. physical capability) are just two possible drivers of behaviour according to Michie and colleagues' capabilities (C), opportunities (O), and motivations (M) model of behaviour change (B; COM-B) (Michie et al., 2011). Healthcare professionals also require physical opportunities (e.g., time), social opportunities (e.g., social cues from colleagues), reflective motivation (e.g., intentions), and automatic motivation (e.g., emotional reactions) to implement the guidelines in practice. Although preliminary evidence exists concerning GP's capabilities, opportunities and motivations to discuss self-harm with young people (Fox et al., 2015), there has yet to be a comprehensive assessment of the drivers of self-harm guideline implementation among other healthcare professionals. There is a need for research that identifies a comprehensive range of potential drivers, in order to determine which factors would be most appropriate targets for intervention.

Quality Improvement Interventions

Interventions to improve adherence to the self-harm guidelines

A scoping review was conducted to identify existing quality improvement intervention studies that aimed to facilitate implementation of the NICE self-harm guidelines. Since the terminology surrounding quality improvement interventions is variable and unstandardised in the research literature (Hempel et al., 2011), the search was widened to include any organisational-level, or healthcare professional-level interventions that aimed to improve care provision for self-harm in a manner concordant with the guidelines (Kapur, Gorman, et al., 2021). This enabled inclusion of intervention studies that did not explicitly aim to facilitate adherence to national

guidance. Trials of interventions with a primarily therapeutic element (i.e.: the provision of psychological or pharmacological treatments for self-harm) were excluded from the review due to their focus on evaluating the causal effectiveness of treatments, instead of processes of service change (Crisóstomo Portela et al., 2015). Studies evaluating the development or implementation of predictive risk screening tools were also excluded, because they are cautioned against in the NICE guidelines (NICE, 2004).

Quality improvement interventions: systematic reviews

The review identified two systematic reviews pertinent to quality improvement for self-harm: one review of clinical staff attitudes and knowledge regarding people who self-harm, which included a sub-section on intervention studies (Saunders et al., 2012), and a review of interventions to reduce self-harm on inpatient wards (Nawaz et al., 2021).

The first review identified nine studies that evaluated the impact of educational interventions on staff attitudes and knowledge (Saunders et al., 2012). Intervention participants were chiefly nurses working in general hospitals and psychiatric wards. The content and delivery of the interventions were considerably diverse; ranging from a staff noticeboard and information folder (May, 2001), university lectures (Commons Treloar & Lewis, 2008; Crawford et al., 1998), and a 78-hour training course involving taught modules, reflective group workshops, and mentor feedback (Patterson et al., 2007a). Self-reported attitudes, knowledge, and confidence caring for people who self-harm were improved following the education interventions (Saunders et al., 2012), except the intervention that only provided educational materials with no formal taught component (May, 2001). Two interventions explicitly contained skills training components involving role-play and feedback exercises (Gask et al., 2006; Patterson et al., 2007a), which held sustained improvement to attitudes and antipathy at six month follow-up. However, neither study observed a change in professional practice. Only one study measured service quality pre- and post-intervention, finding 33% more assessment proformas were rated as adequate following training, indicating an improvement in the quality of psychosocial assessments (Crawford et al., 1998).

The second review identified six organisational improvement interventions, and two interventions with a combined therapeutic and ward-based approach to reduce self-harm (Nawaz et al., 2021). Of the organisational-level interventions, three studies were staff training interventions to improve management of challenging patient behaviours. Two of these studies led to a decrease in recorded self-harm at 1-year (Bowers et al., 2006) and 5-years post-intervention (Ercole-Fricke et al., 2016); the third study did not report any results. The remaining three organisational intervention studies were replication studies of the ‘Safewards’ care protocol, a communication-based pathway based on ten practice changes (Bowers et al., 2015). Only one of these replication studies showed a reduction in self-harm post-intervention (Dodds & Bowles, 2001). Finally, the two mixed interventions consisted of changes to care protocols, such as an additional night shift, altering nurse placements on psychiatric wards, and introducing structured recreational activities for patients (Carr, 2012; Reen et al., 2021). Both of the mixed studies significantly reduced ward-recorded self-harm.

In summary, both reviews reported promising findings for training-based interventions to change staff attitudes and practice in relation to self-harm, however, the evidence was limited by a number of drawbacks. Outcome measures across both reviews were heterogenous; while one study used a validated measure of attitudes towards people who self-harm (Patterson et al., 2007b), no assessment was made of healthcare professional behaviour or service provision to determine whether compassionate patient care was actually implemented (Patterson et al., 2007a). The one study that measured service quality indicated that despite an overall improvement, post-intervention practice still fell short of current guideline recommendations by providing psychosocial assessments to only 46% of patients (Crawford et al., 1998). While the mixed therapeutic interventions tentatively showed reductions in recorded self-harm, they were limited by simple pre-post designs with no control conditions, meaning the mechanisms of action underlying the interventions are unclear. Additionally, the data were derived from single, small wards over short periods of time (intervention lengths varied between 2 weeks to 18 months), which may not have been long enough to capture a meaningful change in self-harm rates (Nawaz et al., 2021).

Quality improvement interventions: single trials

A single randomised controlled trial was found relating to quality improvement for self-harm. This comprised an educational intervention for GPs to manage older adults with depression and self-harm (Almeida et al., 2012). Printed information about the assessment and management of self-harm in older adults (including medication prescribing) was provided to GPs in the intervention condition, which was followed up with biannual newsletter prompts. Detailed audit feedback about rates of self-harm and depression among their patients was also provided. Control participants were shared less detailed information about the audit results, and were mailed newsletters containing general information about the progress of the study. Older adults treated by intervention GPs self-reported significantly (17%) less self-harm behaviour at 2-year follow-up than those treated by control GPs, but there was no recorded change in antidepressant prescribing. Although the trial was randomised, the sample of GPs were all volunteers who may have had a pre-existing interest in mental health and self-harm, meaning the intervention may not be as successful to implement for GPs with limited interest.

The scoping search also returned several uncontrolled observational studies: two training-based interventions, three organisational interventions, and four mixed interventions involving audits, education provision, and resource development.

Both training interventions aimed to improve the knowledge and confidence of nursing staff (Hill, 2022; Manning et al., 2017). One intervention was a co-produced digital education programme (Manning et al., 2015), and the second consisted of in-person sessions about emergency triage (Hill, 2022). Both interventions measured self-reported changes in knowledge, confidence, attitudes, and behavioural intention to change (measured as 'perceived changes' in Hill, 2022). Moderate improvements ($d = .29-.69$) were recorded for all outcome measures post-intervention for the e-learning intervention (Manning et al., 2017); descriptive pre-post ratings were higher 30 days after the in-person intervention, but were not supported by any inferential analysis (Hill, 2022). However, neither study recorded any measures of subsequent behavioural or service changes. Both studies were described as being theory-based, however, the theory was not described in the e-

learning intervention, and the in-person educational intervention was only described as being “founded on constructivism” and experiential learning (p. 44, Hill, 2022).

The three organisational interventions comprised an extension to the working hours of a liaison psychiatry service (Opmeer et al., 2017), a combined rapid response pathway and therapeutic intervention for children and young people (Cross & Clarke, 2022), and a single-centre self-harm pathway and protocol for adults who self-harm (Lepping et al., 2006). By extending the working hours of liaison psychiatry from 9:00 to 17:00 (Monday to Friday) to 8:00 to 22:00 (7 days a week), the proportion of psychosocial assessments increased significantly from 57% to 68%, repeat self-harm episodes were reduced by 20%, and costs per patient were marginally lower (Opmeer et al., 2017). The adult self-harm pathway and protocol comprised a triage appraisal proforma to prioritise psychosocial assessment provision, which was shared with the patients’ GP (Lepping et al., 2006). Post-intervention measures indicated a significantly greater proportion of completed psychosocial assessments (from 47%-70%) and triage forms (81%). In contrast, the rapid response pathway intervention was coproduced with patients. After presentation to A&E patients were assessed by the local crisis team then referred to a community-based youth provider to arrange an initial therapeutic intervention session within 48 hours (Cross & Clarke, 2022). Self-reported self-harm, anxiety, and depression scores were moderately lower at follow-up (between $r = .45-.56$). Only 13.6% ($n = 6$) children re-attended A&E within 6 weeks due to repeat self-harm, or out of concern that they could not keep themselves safe; two further patients re-attended A&E at four-month follow-up.

Finally, the mixed interventions were developed in response to audits and supported by educational components: two proformas to promote consistency of information capture in A&E (Cracknell, 2015; Hughes & Kosky, 2007), a self-assessment tool for best practice (Tobin et al., 2001), and a clinical database (Greene et al., 2008). Both proformas were designed to address deficiencies in information reporting for self-harm patients, and were implemented following brief educational sessions with A&E staff. Follow-up audit indicated that the proformas facilitated formal risk assessments, decreased the proportion of patients who self-discharged prior to assessment (Cracknell, 2015; Hughes & Kosky, 2007). The self-assessment tool was developed to capture 81 aspects of the emergency department care pathway;

scores on this tool improved pre- and post-delivery of the educational intervention, and referral numbers increased (Tobin et al., 2001). However, the educational element of the project was perceived to have failed due to low participant engagement. Lastly, the clinical database was conceived to improve clinical assessment of poisonings in emergency departments (Greene et al., 2008). Educational lectures and case-study scenarios were utilised, in addition to weekly electronic feedback reports. Clinical management of patients was graded based on the potential for harm; a significant decrease in the proportion of minor and major care shortfalls was recorded post-intervention.

Consistent with the findings of the systematic reviews in the previous section, the methodological quality of intervention studies are limited. The heterogeneity of the interventions and inclusion of multiple components obfuscates the identification of effective behaviour change techniques (Hughes & Kosky, 2007; Opmeer et al., 2017). In addition to a reliance on pre-post designs with short follow-up periods, several interventions included no inferential analysis or clear descriptive statistics to illustrate the impact on service (Cracknell, 2015; Tobin et al., 2001). The strength of the findings was also harmed by developing and trialling interventions in single sites, where the researchers were already embedded with extant knowledge of the location and staff. Studies also suffered from high levels of dropout and attrition post-intervention (Manning et al., 2017); one study had as few as 15 participants (Hill, 2022), drastically limiting the generalisability and clinical utility of the findings.

Conclusions

This review of the evidence base has identified a gap in the implementation of national guidance for self-harm. Nonadherence to the guidelines leaves patients vulnerable to potentially harmful prescribing errors, inaccurate assessments, and stigmatising staff attitudes. There are preliminary indications that gaps in knowledge and skills may contribute to guideline nonadherence, but overall understanding about the drivers of self-harm guideline implementation is poor. Few interventions have been developed with the explicit intention of changing healthcare professional practice to implement self-harm guidance. Despite a wealth of strategies to improve the care for people who self-harm, few have elicited a tangible improvement to

service quality and patient outcomes concordant with the expectations of the NICE guidelines. Most have focused on improving clinician education by targeting attitudes and knowledge of staff. Some atheoretical interventions involving formal care pathways and staffing changes have produced improvements to patient outcomes, but the mechanisms of action underlying these interventions are unclear due to poor reporting. It is also unknown whether upscaling these organisational interventions into real-world practice is feasible (Hetrick et al., 2016). There is a need for theory-based interventions that target the drivers of guideline implementation by utilising appropriate behaviour change techniques and intervention functions to enact sustainable change.

Aims and Objectives of the Thesis

The two overarching aims of this thesis was to understand the drivers of following the NICE guidelines for self-harm, and to use the drivers to develop a quality improvement intervention to increase implementation of national guidance for self-harm. These aims are addressed by a quantitative study, a follow-up qualitative study, and an intervention development study.

Specific objectives addressed by results chapters

The research aimed to answer the following research questions, which were derived from the literature review:

- Which healthcare professionals, and in which settings, are aware of the NICE guidelines for self-harm?
- Which healthcare professionals, and in which settings, do not implement the NICE guidelines for self-harm?
- What are the barriers and enablers to implementing the NICE guidelines for self-harm beyond knowledge and skills acquisition?
- How can the barriers to guideline implementation be addressed through a quality improvement intervention to change healthcare professionals' practice?

These objectives were selected to be congruent with the stages of intervention design as outlined in Chapter 3. The first two questions are addressed by a large quantitative study (Chapter 4). The third question is also partially answered by the quantitative

study (Chapter 5), but is expanded upon in two concurrent qualitative studies (Chapters 6 and 7). The final research question is answered by synthesising the results of prior studies using a framework of intervention development (Chapter 8).

Chapter 3 Methodology

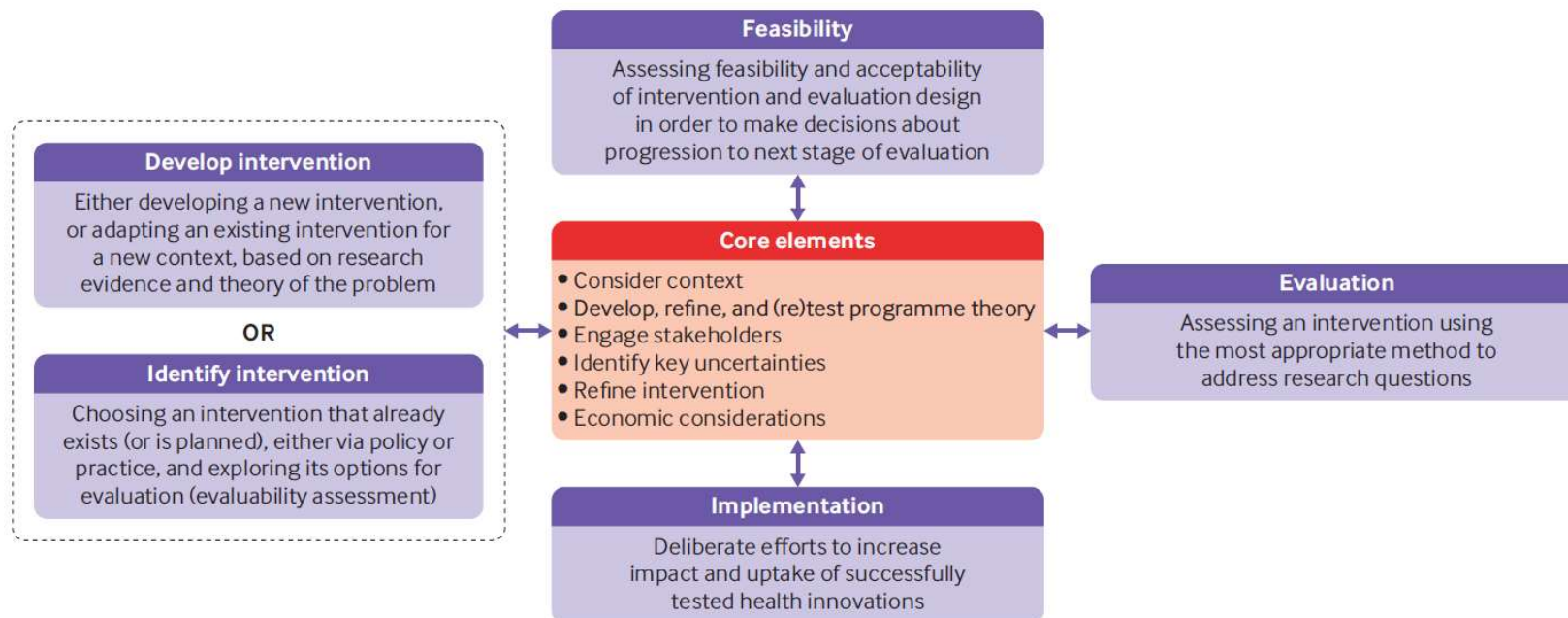
Overview of Chapter

This chapter provides a critical evaluation of the rationale behind the overarching methodological decisions related to this programme of research and intervention development. More specifically, a rationale is outlined regarding: (i) the choice of theoretical framework used to guide intervention development, (ii) the adoption of a mixed methods approach to data collection, (iii) the choice of research designs, (iv) the types of analyses, and (v) the approach taken to synthesise the collected data.

Approach to Intervention Design

There are a number of approaches to intervention design, depending on whether the intervention is intended to change health behaviour, implementation of evidence-based practice, or elicit wider changes to services (Duncan et al., 2020; Turner et al., 2019). Accordingly, many frameworks have been developed to guide the process of intervention development (O’Cathain, Croot, Sworn, et al., 2019), the most prominent of which is the Medical Research Council (MRC) framework for developing and evaluating complex interventions (Campbell et al., 2000; Craig et al., 2008; Skivington et al., 2021). An intervention is considered to be complex if it has a number of components, targets a range of behaviours, or involves multiple levels; however, complexity is also defined as a product of the interaction between an intervention and its context (Greenhalgh & Papoutsis, 2018; Skivington et al., 2021). The framework identifies four non-linear stages of intervention research, supported by six core elements (represented in Figure 3.1). While most intervention design research will start with the development (or identification) stage, the framework advises that intervention researchers may need to return to this stage multiple times through the development lifespan in order to continually refine and adapt the intervention based on new evidence.

Figure 3.1: Framework for developing and evaluating complex interventions (reproduced from Skivington et al., 2021). Protected by copyright.



Key considerations for the development of an intervention include the context of the potential intervention, particularly the way that the context will interact with the potential components and mechanisms of an intervention (Kitson, 2009; Nilsen, 2015). The importance of context was added to the MRC framework in response to criticism that contextual influences on intervention success were overlooked in previous versions (Fletcher et al., 2016). A programme theory is necessary to describe the intervention components and mechanisms in order to anticipate the potential interactions between the intervention and its context (Moore et al., 2014; Moore et al., 2015). Remaining uncertainties about the intervention (e.g.: ‘who needs to do what, differently?’, French et al., 2012) are then identified in order to generate research questions. Stakeholder engagement may help to prioritise research questions and inform the programme theory, and contribute to the continuous refinement of the intervention (Byrne, 2019). Finally, economic evaluations need to be conducted in order to judge whether the costs of designing, refining and implementing the intervention will be cost-effective compared to any potential savings that the intervention may produce after implementation (Sculpher, 2000; Wright et al., 2020).

The MRC guidance emphasises the utility of theory for the development and evaluation of complex interventions (Craig et al., 2008; Skivington et al., 2021). Behaviour change theories are important for identifying and understanding influences on behaviour, in order to select appropriate intervention targets and components (Campbell et al., 2000; Prestwich et al., 2015). Interventions with a sound theoretical basis are more likely to change behaviour, or change behaviour to a greater extent (Colquhoun et al., 2017). Clear reporting and understanding of an intervention’s theoretical grounding is essential to ensure successful replication, implementation, and evaluation of interventions (Johnson & May, 2015; Prestwich et al., 2014). However, there are currently no recommendations in the MRC framework about how to select and apply appropriate theories to interventions (Michie et al., 2011; O’Cathain, Croot, Duncan, et al., 2019). As a result, many researchers fail to sufficiently consider the theories of change for the behaviours and processes they aim to alter, and are unable to adequately report the decision-making processes

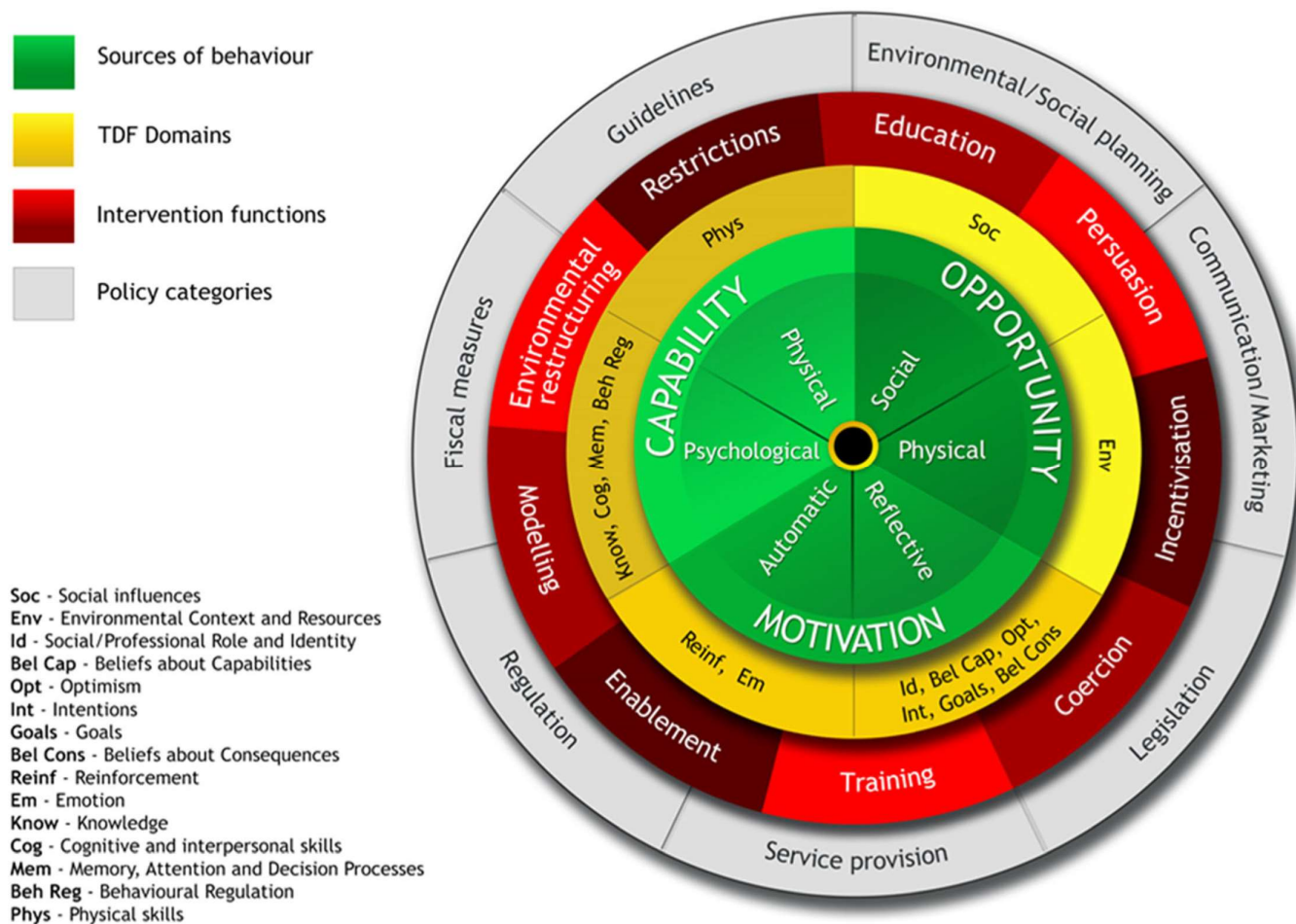
behind the ‘*what*’, ‘*why*’, and ‘*how*’ of their intervention (Davidoff et al., 2015; Hoddinott, 2015).

The under-utilisation and poorly-described use of theory in intervention development has partly been attributed to the complexity and diversity of behaviour change theories (Eccles et al., 2012; Michie et al., 2011). This is problematic for intervention developers due to the plethora of available behaviour change theories and models (Michie & Johnston, 2012), many of which contain overlapping but differently-named constructs (Armitage & Conner, 2000; Michie et al., 2005). Few models of behaviour are comprehensive, and may overlook potentially salient influences on behaviour (Cane et al., 2012; Michie et al., 2011). Researchers often use theory to explain intervention components post-hoc, instead of applying theories within the context of the intervention setting to guide decision-making; as a result, many interventions can only be considered as evidence-inspired, and not truly evidence-based (Kislov et al., 2019; Michie et al., 2011). More detailed intervention frameworks have been designed to support a transparent process of theory utilisation and information triangulation in intervention design (O’Cathain, Croot, Duncan, et al., 2019).

The Behaviour Change Wheel Approach

One such framework is the Behaviour Change Wheel (Michie et al., 2011), which was developed to combine the process of behavioural analysis with a systematic method to select intervention targets and components (Michie et al., 2014) (depicted in Figure 3.2). Nineteen frameworks of behaviour change interventions were synthesised to create a comprehensive, coherent framework for intervention development. A key feature of this framework is the inclusion of an underpinning theoretical model: the Capability (C), Opportunity (O), and Motivation (M) model of behaviour change (B; COM-B). The model stipulates that three essential conditions must be met for a behaviour to occur: an individual must have sufficient capability, opportunity, and motivation. Therefore, by identifying which of these conditions enable or inhibit the behaviour within in a particular context, an intervention can be designed to modify them and produce behaviour change (Michie et al., 2014).

Figure 3.2: The Behaviour Change Wheel (reproduced from Michie et al., 2014). Protected by copyright.



The framework comprises three distinct stages of intervention development. Stage 1 involves understanding the behaviour, Stage 2 involves identifying intervention options, and Stage 3 involves identifying behaviour change techniques and mode of delivery (Michie et al., 2014; Michie et al., 2011). Similar to the MRC framework, these stages can be undertaken sequentially or in parallel (Skivington et al., 2021). The initial stage operationalises the ‘problem’ in behavioural terms by specifying what behaviour needs to change, who needs to perform the behaviour, when, where, how often, and with whom they will perform the behaviour. The final part of Stage 1 crucially involves identifying what needs to change in the person and/or their environment (i.e.: context) to achieve the desired change in behaviour. This involves a deep understanding of the target behaviour through a process known as ‘behavioural diagnosis’, which utilises the COM-B model and/or the Theoretical Domains Framework to identify barriers to, and facilitators of change (Atkins et al., 2017; Cane et al., 2012).

During Stage 2 intervention options are linked to the components identified in the behavioural diagnosis; nine intervention functions that explain how an intervention can change behaviour are represented by the red wheel, and seven policy categories that describe the decisions that policymakers and organisations can make to enable the delivery of interventions are represented by the outermost grey wheel in Figure 3.2. The APEASE (Affordability, Practicability, Effectiveness/cost-Effectiveness, Acceptability, Side-effects/Safety, Equity) criteria are used to guide judgments about which components might be most appropriate for the intervention. Lastly, Stage 3 involves identifying which behaviour change techniques (BCTs) best serve the selected intervention functions, and which mode of delivery is most appropriate to implement the intervention. The Behaviour Change Techniques Taxonomy V1 (BCTTv1) (Michie et al., 2013) is used to select BCTs, which are described as the irreducible, observable ‘active ingredients’ of interventions (Bartholomew & Mullen, 2011). A brief taxonomy of modes of delivery is contained within the Behaviour Change Wheel Guide (Michie et al., 2014).

The Capability, Opportunity, and Motivation Model of Behaviour Change

The COM-B model is the theoretical anchor of the Behaviour Change Wheel that describes the interacting sources of behaviour (Michie et al., 2011; 2014). These

are depicted in Figure 3.2, as the central green wheel. The model states that behavioural drivers can be categorised into six components (each COM component is divided into two sub-components). For example, motivations can be ‘reflective’ (involving conscious plans and evaluations or ‘automatic’ (involving unconscious processes such as needs, impulses and reflexes). The components can interact; for example, a lack of support from managers (opportunity), and absence of skills (capability) may decrease motivation to implement evidence-based practice (behaviour), but increasing motivation alone will not change the practitioner’s skills nor affect the workplace culture that suppresses their motivation to implement the desired behaviours. The breadth of the COM-B model is advantageous compared to more precise theories of behaviour, because the components can be applied to a number of different contexts and behaviours without needing to select a specific theoretical approach (French et al., 2012). However, others criticise the COM-B for being too parsimonious, and sacrificing an adequate level of detail about the determinants of behaviour to be useful for understanding complex behaviours such as healthcare professional practice (Ogden, 2016).

The Theoretical Domains Framework

A solution to this issue is the Theoretical Domains Framework (TDF) (Cane et al., 2012). This framework was purposely designed for implementation research by extending the COM-B components into 14 domains, which are matched to the intervention functions of the Behaviour Change Wheel (Atkins et al., 2017; Michie & Johnston, 2012). These domains are depicted in Figure 3.2 as the inner gold wheel connected to the central COM wheel. The TDF synthesises multiple constructs relevant to healthcare professional behaviour change into a single framework, similar to the manner with which the COM-B was developed (Atkins et al., 2017). It was intended to increase the accessibility and utility of psychological theory for understanding behaviour change and intervention design in implementation research (Cane et al., 2012; Michie et al., 2005). As part of the Behaviour Change Wheel, it can be used instead of, or as an accompaniment to the COM-B to further elucidate behavioural drivers. For example, the COM-B component ‘automatic motivation’ maps to the ‘emotion’ and ‘reinforcement’ domains of the TDF, which demonstrates the precision offered by the TDF (Cane et al., 2012).

Rationale for the Behaviour Change Wheel

The Behaviour Change Wheel offers a comprehensive, explicit strategy to design and report the development of a complex intervention, in accordance with the MRC framework (Skivington et al., 2021). The Behaviour Change wheel also addresses some of the shortfalls in the MRC guidance. Firstly, the framework is based upon a central theory for intervention development (i.e.: the COM-B model), which helps researchers to consider a range of possible influences on behaviour within the healthcare system. Furthermore, the COM-B approach to behavioural diagnosis is endorsed by national guidelines for behaviour change (NICE, 2014b). Secondly, this theory explicitly incorporates the understanding of the environment (i.e.: context) into intervention design, which is necessary for successful implementation and also concordant with the updated MRC guidance (Fletcher et al., 2016; Skivington et al., 2021). Thirdly, the framework guides the triangulation of data from multiple sources, and offers the APEASE criteria to make judgements on intervention content; this means that decision processes about intervention development are transparent, which is crucial for precise evaluations of effectiveness, refinements, replication, and subsequent scale-up efforts for the intervention (Craig et al., 2013; Sculpher, 2000).

A further advantage of the Behaviour Change Wheel approach is that it is not intended to be a strict 'blueprint' for intervention design; the framework offers sufficient flexibility to refine the intervention components to suit the specific target population, behaviour, and context (Richardson et al., 2019). Many theory-based interventions are developed through top-down processes, where intervention targets are derived from the specifications of existing models and evidence-based requirements (e.g.: national guidelines) (Davidoff et al., 2015). However, bottom-up (also known as 'ground-up') approaches to intervention development, which prioritise the views of healthcare professionals, offer a more granular level of understanding about the features of the healthcare context and the way they may interact with potential intervention components (Klaic et al., 2022). By adopting the Behaviour Change Wheel as a framework, the direction of development is ultimately driven by findings generated from healthcare professionals, that are interpreted through the theoretical lenses of the COM-B and TDF. Although the adoption of behavioural science approaches to address evidence-practice and quality of care gaps

for self-harm and suicidal behaviour is a novel area, the TDF in particular has been identified as an appropriate tool to identify drivers of evidence-based practice in response to suicidal behaviour (Reifels et al., 2022).

There also exist some criticisms of the framework: critics argue that the systematisation (or ‘oversimplification’) of intervention development in the framework is not necessarily useful or desirable for intervention development, due to the variability of ‘real-life’ contexts and healthcare professional behaviours (Fletcher et al., 2016; Ogden, 2016). Despite the capacity to conduct the stages of the framework in parallel, some perceive that the stepped nature of the framework depicts a linear, idealised approach to intervention development (Fletcher et al., 2016). On the other hand, others have criticised the subjectivity involved in interpreting behaviours and making judgements on intervention components, despite the inclusion of the APEASE framework (O’Cathain, Croot, Sworn, et al., 2019). Furthermore, the framework does little to facilitate the involvement of stakeholders in the development processes, which may be suppressed by a perceived high barrier to entry for those unfamiliar with psychological processes and the associated terminology (O’Cathain, Croot, Sworn, et al., 2019). This concern is all the more pressing in light of the updated MRC guidance that highlight stakeholder involvement as a core element of each development stage (Skivington et al., 2021). Despite these criticisms, the framework remains a comprehensive, flexible, and effective approach (O’Cathain, Croot, Sworn, et al., 2019).

The Behaviour Change Wheel has been used extensively to design effective interventions related to health behaviours, but there exist few examples of interventions to support guideline implementation. Bonner and colleagues used the Behaviour Change Wheel to develop and pilot a web-based GP intervention to implement guidelines for cardiovascular disease prevention (Bonner et al., 2019). The pilot indicated potential efficacy of the intervention by improving hypothetical risk identification and intended prescribing behaviour, but the intervention has yet to be trialled in real-life practice. A similar GP-focused intervention was developed to improve medication management through social support for patients with multimorbidity (Sinnott et al., 2015), however, this intervention has yet to be piloted (Hynes et al., 2021). Finally, the CHARMS intervention was developed to implement sexual counselling guidelines in cardiac rehabilitation settings (McSharry

et al., 2016); results from the pilot trial indicate that the intervention was feasible to implement, and successfully changed healthcare professional behaviour (Murphy et al., 2018). This evidence indicates that the Behaviour Change Wheel can be used to develop effective implementation interventions that are feasible and acceptable to healthcare professionals.

Rationale for Mixed Methods Approach

Theoretical considerations of mixed methods research

A mixed methods approach was selected to address the research questions that guided our process of intervention development. Mixed methods are an alternative to solely adopting quantitative or qualitative methods; traditionally regarded as incommensurate approaches situated at opposite ends of the ontological spectrum (Crotty, 1998). Quantitative methods are commonly associated with positivist realist paradigms (which assume a single, measurable reality), while qualitative methods are associated with constructivist paradigms (which assume no single reality, which therefore needs to be interpreted) (Scotland, 2012). Epistemologically speaking, quantitative methods tend to be undertaken by regarding the researcher and ‘researched’ to be distinct entities that do not influence each other, whereas qualitative approaches more often acknowledge that the researcher and ‘researched’ are interactively linked, and sensitive to contexts and perspectives (Teddlie & Tashakkori, 2009). However, in practice, qualitative and quantitative approaches are far more fluid. Realist stances can be compatible with qualitative methods (Madill et al., 2000; Porter, 2007), and quantitative methods can be utilised to contribute to constructionist inquiries (Berland et al., 2014; Romaioli, 2021). Mixed methods on the other hand, involve the collection or analysis of both qualitative and quantitative data, which are then integrated to provide deeper and broader understanding (Creswell, 2014; Johnson et al., 2007). This allows for the use of whatever approach is most appropriate to answer the research questions, provided the researchers have evaluated the both the *separate* strengths of quantitative and qualitative methods, and the *combined* strengths of the chosen methods (Dures et al., 2011; Morgan, 2014).

A pragmatic paradigm was chosen to guide the selection of methods for this research because it befits the purpose of intervention development; pragmatism is

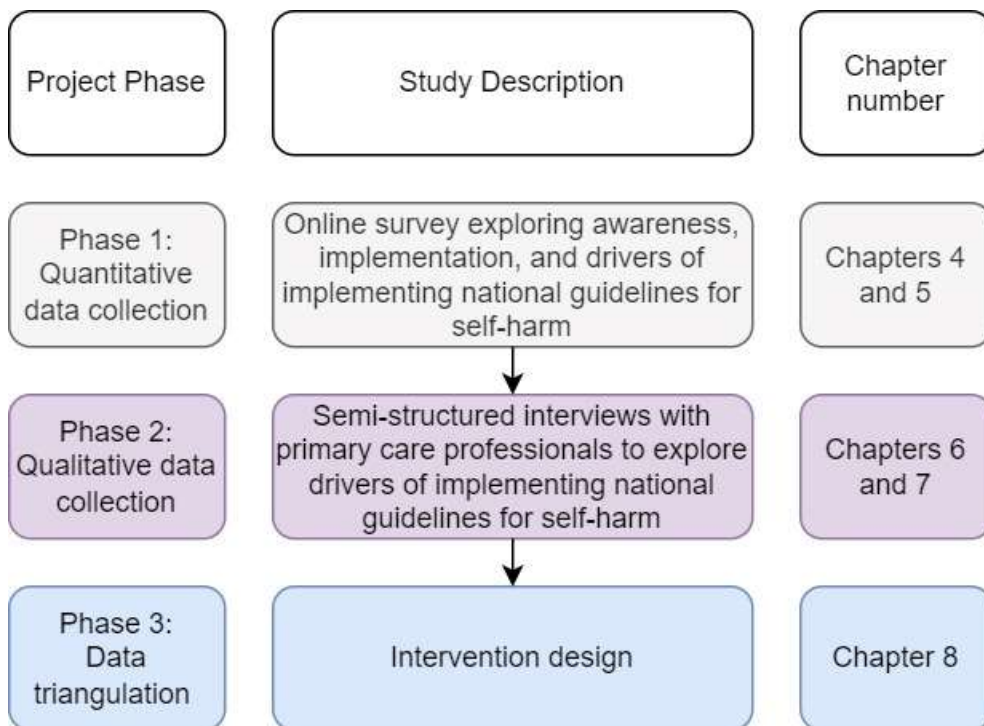
action-focused, and aims to interpret knowledge in a way that will produce a functional consequence (Cornish & Gillespie, 2009). This matches the purpose of the present research, which aimed to interpret the experiences of healthcare professionals who care for people that self-harm, and translate the knowledge into intervention targets. Pragmatism takes a middle road through the assumptions of realist and constructivist paradigms (Morgan, 2007). Under pragmatism, a reality exists that is separate from human experience, but can only be encountered through human experiences (Kaushik & Walsh, 2019). As such, reality is both ‘real’, and socially constructed. Epistemologically, knowledge is based upon experience, and all knowledge is social knowledge because each individual is a product of a world that has been experienced and interpreted by previous generations; therefore, an individual’s knowledge is both unique to them, and shared among those with similar social experiences (Doyle et al., 2009). At the methodological level pragmatism understands research as inquiry-based decision making (Dewey, 2011), where appropriate research methods must be selected to address the specific needs of the study (Johnson & Onwuegbuzie, 2016). This is well-suited to a mixed methods approach, since it allows for an integrated inquiry process that combines that strengths of both quantitative and qualitative approaches (Morgan, 2014).

The use of mixed methods approaches is also recommended in the Behaviour Change Wheel framework of intervention development, because triangulating knowledge from multiple sources and methods strengthens understanding of the target behaviour (Michie et al., 2014). Using mixed methods allows the researcher to build a consistent picture of the behaviour, its context, and its influences to increase confidence in the analysis. This is particularly salient for understanding healthcare professional behaviour, which is highly sensitive to the differing contexts within the health system (Hanbury et al., 2011). Therefore, to design the intervention in this research, findings from both quantitative and qualitative studies were triangulated to select the most appropriate and effective behaviour change techniques and intervention functions for the target population. We first conducted a quantitative survey to gain broad data from a large sample of healthcare professionals, and supplemented this knowledge with targeted qualitative interviews to explore the findings in greater depth.

Practical considerations for high-quality mixed methods research

In order to integrate the quantitative and qualitative methods selected for data collection, we opted to use two separate types of data collection procedure, data, and analytical procedures to combine the objective and subjective findings (Creswell & Tashakkori, 2007). It was decided to collect the data sequentially (Creswell, 2014); the quantitative data was collected first to answer research questions about the awareness and implementation of guidelines broadly across the patient-facing workforce by administering a large cross-sectional survey. We used the same method to gather preliminary data about behavioural drivers among this large sample. The findings were then explored in more detail among an appropriate target population for the intervention by using qualitative interviews. The qualitative methods were weighted more dominantly for selecting intervention components during data triangulation, since these data were grounded within context the intervention would ultimately be designed for deployment in (Johnson & Onwuegbuzie, 2016). Data integration occurred after all data was collected, in accordance with the Behaviour Change Wheel guide to intervention design (Michie et al., 2014). A diagrammatic representation of the studies conducted is presented in Figure 3.3.

Figure 3.3: Overview of the design of the studies described in this PhD thesis



Quantitative Methodology: Study 1 (Chapters 4 and 5)

Cross-sectional online survey design

A review of the literature identified a dearth of knowledge about UK healthcare professionals' awareness and implementation of national guidance for self-harm. Furthermore, our review identified gaps in understanding about the factors associated with implementing the self-harm guidelines. Therefore, the main aims of this study were firstly to identify the extent of guideline awareness and implementation across the healthcare system, to identify which settings and professions would benefit the most from an intervention (Chapter 4). Secondly, the study aimed to identify potential intervention targets from healthcare professionals that had previously encountered patients who self-harm (Chapter 5). The purpose of this was to identify “*who needs to do what, differently?*”, and “*which barriers and enablers need to be addressed?*” (French et al., 2012, p.3).

A cross-sectional online survey design was chosen to address these aims; this was judged to be an appropriate way to gain a ‘snapshot’ of information about self-reported behaviour from healthcare professionals at a single timepoint (Connelly, 2016). An advantage of using a cross-sectional survey was that several factors could be assessed rapidly, from participants working in multiple healthcare professions and settings (Polit & Beck, 2014). Online delivery is particularly advantageous because it affords convenience: participants can respond in a time and place that suits them (Lefever et al., 2007; Wright, 2005). However, this may exclude participation from those who have limited access to information technologies due to income, language, literacy, or age-related barriers (Braun et al., 2020). Questionnaire surveys are described in the Behaviour Change Wheel handbook as a potentially useful source of information provided the participants respond honestly, and have the capacity to have insight on their own behaviour (Michie et al., 2014). Healthcare professionals were judged to have expert insight into their own behaviours, however, we also anticipated that social desirability biases may prevent some participants from answering honestly, in cases where their practice was not in accordance with the guidelines (Larson, 2018).

Third party data collection and sampling considerations

An online survey panel company was enlisted to recruit participants for data collection. The company (YouGov) have multiple participant panels, including a panel of over 2,000 healthcare professionals working in the NHS and private UK healthcare sector. The healthcare professional panel is sampled using quotas to match the demographics of the NHS workforce in terms of professional role, work setting, gender, ethnicity, and age; this ensures that data collected from the panel is representative of the wider UK healthcare professional workforce. Panel members are incentivised to take part in surveys for points, which can be exchanged for cash prizes. We opted to sample a sub-section of the panel who worked in patient-facing roles, in order to eliminate responses from staff who were unlikely to be directly involved in the care of people who self-harm (i.e.: due to working in an administrative role). Utilising a third-party company for data collection allowed us to collect high-quality data rapidly from a targeted sample that was large enough to allow rigorous statistical analysis (Schoenherr et al., 2015). Online panels are commonplace in marketing, political, and social research industries, but are comparatively rarer in health research due to a number of associated challenges with this approach (Holbrook et al., 2007).

There are concerns surrounding the validity of panel data, because participants are pre-selected by virtue of belonging to a panel for the purpose of completing surveys for rewards (Callegaro et al., 2014); additionally, members tend to be recruited through nonprobability methods (e.g.: advertisements and mailing lists), meaning panels are highly unlikely to be a random sample of the population they purport to represent (Tsuboi et al., 2015). Furthermore, the recruitment processes of panel companies tend to be opaque, which creates queries about the validity of the participant characteristics; some argue that respondents may provide exaggerated or misleading details that make them more desirable to be surveyed in order to earn more rewards (Schoenherr et al., 2015). However, there is no reliable data available about the prevalence and scale of this issue. Finally, evidence indicates that data quality can be compromised in professional panel data, due to low completion rates and suspicious completion speeds which may indicate rushing (Leiner, 2019; Zhang & Gearhart, 2020). To mitigate some of the issues encountered in the present research with data quality due to non-completion and routing errors

within the survey flow, we opted to conduct some of the analysis on a sub-sample of responses (this is described in greater detail in Chapter 5).

Rationale for measures

A description of the questionnaire measures used are provided within the methods sections of Chapters 4 and 5. This section will focus on the rationale behind the choice of measures included in the survey. The survey questions were delivered as part of the panel company's quarterly healthcare professionals survey; as such, demographic features were captured using the company's pre-existing measures and categories. The survey was developed in collaboration with the company in order to adhere to their restrictions on question length and phrasing. Self-reported awareness of the guidelines was measured using a five-point scale with standardised wording from the panel company (e.g.: 'know very well', 'know a fair amount'). Likewise, self-reported implementation of the NICE guidelines for self-harm was measured using the panel company's suggested 0-100% sliding scale. Questions about self-harm training history and tool use were derived from the expectations in the guidelines that all healthcare professionals that encounter patients who self-harm have adequate training, and should not use risk screening tools to predict future self-harm or treatment decisions (NICE 2004, 2011). A single open text response question was used for participants to describe any risk screening tools they used. Factors associated with self-harm were adapted from existing measures used previously in a similar survey of healthcare professionals (Keyworth et al., 2018). COM-B constructs were measured using an existing, validated measure of behaviour designed to be adapted for use with other behaviours and populations (Keyworth et al., 2020). This measure was chosen because it explicitly measures capabilities, opportunities, and motivations in a way that aligns with the Behaviour Change Wheel's suggestions for collecting information on behavioural drivers by questionnaire (Michie et al., 2014).

Rationale for analysis

Since the study was descriptive by nature, Chapter 4 primarily reports descriptive data about awareness and implementation of the guidelines, presented across professional groups. Chi-square analyses were undertaken to compare the proportions of demographic features in the sample with contemporary NHS

workforce data to ensure validity of the sample. This was to facilitate the identification of which professions and healthcare settings were least aware of the guidelines, and were least able to implement them. Tools reported in the open text responses were not analysed qualitatively: they were only frequency counted in order to identify what participants considered to be tools. Finally, to examine predictors of guideline implementation, multiple regression analysis was conducted. COM variables were entered as predictors, alongside professional role, healthcare setting, previous training, and previous awareness of the guidelines. These were selected as potential correlates of guideline implementation because it was assumed that: a. poor knowledge of the guidelines would be associated with poor implementation b. prior training about self-harm would be associated with better implementation, and c. certain professions and settings (e.g.: mental health professionals/mental health settings) would be more likely to be associated with guideline implementation than others.

Qualitative Methodology: Study 2 (Chapters 6 and 7)

Qualitative interview study

While the online survey provided a broad overview of the drivers encountered by healthcare professionals, this alone was insufficient for intervention development because no information was captured about the nature of the drivers. To address this, a qualitative interview study was planned to explore the barriers and facilitators of self-harm guidelines implementation in greater detail. The main aim of the study was to expand upon the findings of the quantitative data by examining the barriers and facilitators of adherence to the NICE guidelines for self-harm, in order to identify potential targets that would be amenable to change through an intervention. The second aim of the study was to use the Behaviour Change Wheel to interpret the behavioural drivers, and select appropriate intervention targets and behaviour change techniques to be included in the intervention. The purpose of this was to identify “*which intervention components could overcome the modifiable barriers and enhance the enablers?*” (French et al., 2012, p.3).

Rationale for semi-structured telephone interviews

Decisions about the qualitative methods chosen for this study were guided by the research aims: namely to identify candidate intervention targets and strategies

(Lyons, 2014). Interviews and focus groups were considered as potential methods to explore behavioural drivers of guideline adherent practice among healthcare professionals. The decision to ultimately conduct semi-structured telephone interviews was driven by the nature of the participant group. One-to-one interviews offer more privacy than focus groups to allow participants to discuss professional practice candidly (Acocella, 2011); this is particularly important considering the sensitive topic of self-harm, and potential disclosures of practice that may be against the expectations of national guidance. Furthermore, busy healthcare professionals can be challenging to recruit to focus groups due to scheduling conflicts, whereas telephone interviews offer flexibility of time and that is not contingent on the attendance of others (Ladlow et al., 2021). Historically, in-person interviews have been hailed as a gold standard of quality (Burnard, 1994; Carr & Worth, 2001; Novick, 2008), but more recent evidence challenges this perception. A study comparing over 300 in-person and remote interviews found no significant differences in length, interviewer ratings, and substantive coding (Johnson et al., 2019). While the interviewer is unable to draw inferences from body language and expressions, important cues can still be gathered from intonation and other verbal cues (Saarijärvi & Bratt, 2021). In order to counter the potential weaknesses of telephone interviews, we developed information manuals for interviewers to refer to ensure standardisation of definitions, and prompt questions in the topic guide to maintain engagement (Ladlow et al., 2021; Musselwhite et al., 2007).

Semi-structured interviews allow the interviewer to ask questions that are both open and directed towards the goals of the research (Low, 2019). A topic guide was created to provide structure to the flow of conversation, and guide the interviewer through the different behavioural drivers (Harvey-Jordan & Long, 2001). This approach is advantageous because it elicits data that is comparable across the dataset, but still allows the interviewer the flexibility to generate further insight into individual responses (Knox & Burkard, 2009). The topic guide and information manual were designed by the research team and transferred to the panel company for use in the interviews. In accordance with previous research using healthcare professionals as participants (Keyworth et al., 2018), the interview opened with general questions about healthcare professional practice and previous encounters

with self-harm to build rapport, before discussing their use of the guidelines and any associated behavioural drivers in more depth (Dempsey et al., 2016).

Rationale for third-party data collection

The decision was made to conduct the interviews as a direct follow-up to the survey, in order to probe points of interest from the survey findings. Unfortunately, due to the GDPR restrictions of the panel company, the research team were unable to directly recruit survey respondents to interviews. Instead, the compromise was made for the panel company to conduct the telephone interviews on behalf of the researchers, so as to not share any personally identifiable information (e.g.: contact details) from panel members with an external party (i.e.: the research team at the university). The research team considered recruiting participants that had not taken part in the survey in order to be able to conduct the interviews ‘in-house’, however, it was deemed more advantageous to recruit participants who had an existing familiarity with the topics covered by the survey questions.

There is little published academic literature describing the advantages and limitations of utilising external interviewers in academic research (Miles & Huberman, 1994). Definitions of what is considered an ‘external interviewer’ vary widely in the literature, including outsourced third party companies, collaborating academic organisations, and research assistants or dissertation students who are uninvolved with the broader research project. Some authors have justified hiring interviewers external to the main research team due to positionality concerns (Borbasi et al., 2005), as a means to reduce bias in contexts where the researcher works within the same space as the potential participants (Blanchard et al., 2017; Crilly et al., 2020; Jorgenson et al., 2012). A potential limitation of this approach is that the external interviewers may have failed to probe spontaneous points of interest in interviews, which may have harmed the quality of the data. However, steps were taken to ensure rigour and mitigate this issue, by ensuring the contracted interviewers were well-experienced and trained in qualitative interview techniques, providing a brief about the purposes of the study in addition to a comprehensive topic guide, and an outline of definitions and points of interest relevant to the interview topics (Seale & Silverman, 1997). These materials are provided in Appendices E and G.

Sampling and rationale for focus on primary care

We chose to recruit primary care professionals for the follow-up interviews, by sampling GPs and Practice Nurses that work in general practices. It is worth noting that the sampling frame decisions for the interviews were made two weeks after the end of the survey data collection, due to the scheduling commitments of the panel company. Since the panel company were responsible for recruitment, they invited survey respondents who indicated that they worked in primary care, with a quota of 23 GPs and 22 practice nurses. Recruitment stopped before this quota was reached due to a lack of interest and availability from the survey participant pool.

Our sampling decision was made partly based upon the literature review, and upon the preliminary results of the survey. The NICE guidelines contain a section dedicated to recommendations for primary care, which provided a narrower and more amenable set of target behaviours for intervention than the extensive recommendations aimed at other healthcare settings (NICE, 2004, 2011). Primary care is recognised as an important setting for self-harm, since many people who self-harm in the community do not present to hospital services (Mughal et al., 2019; Troya, Chew-Graham, et al., 2019). The literature review indicated that non-adherence to the guidelines for self-harm occurred in primary care settings; particularly prescribing errors, a lack of referrals for psychosocial assessments, and a perceived lack of training (Carr, Ashcroft, Kontopantelis, While, et al., 2016; Chandler et al., 2016; Prasad et al., 1999). However, little research existed describing the barriers that primary care professionals encounter to implementing the self-harm guidelines, representing a research gap. A small number of interventions had been trialled to improve care for self-harm, but these were limited by only focusing on GPs, and not being explicitly developed with the NICE recommendations guiding the target behaviours (Almeida et al., 2012; Lepping et al., 2006). The preliminary survey results indicated that GPs had moderately high self-reported implementation, but this was far poorer among non-GP staff in primary care; as such, we decided it was important to explore the experiences of primary care nurses in addition to GPs, as they have an under-recognised role in the management of self-harm in primary care (Bailey et al., 2019). These considerations built a rationale for a novel and timely intervention targeted towards primary care professionals.

Rationale for analytical approach

The research aimed to explore the drivers of healthcare professional behaviour and identify potential intervention strategies in line with the Behaviour Change Wheel approach (Michie et al., 2014). For data collection, we decided to base the interview topic guide on COM-B constructs, which was adapted from a schedule used in previous research (Keyworth et al., 2019). The COM-B was chosen to derive the interview questions from because it is a central component of the Behaviour Change Wheel framework, and has been used extensively to capture a range of barriers and enablers to implementation behaviours (Alexander et al., 2014; Atkins et al., 2020; Van Leeuwen et al., 2018). This decision was advantageous because it allowed the interview to capture drivers spontaneously (McGowan et al., 2020), and map them on to the TDF framework.

The analysis took a hybrid inductive and deductive approach, by utilising a pre-existing framework to guide the first-level coding (deductive), while also using second-level coding to generate explanatory themes (inductive) (Fereday et al., 2016). The hybrid approach was favoured over a purely deductive approach to allow for the possibility that drivers would be encountered that could not be sufficiently encapsulated by the TDF domains (McGowan et al., 2020). This also allows for the analysis to be refined at the inductive stage by returning to the literature for potential explanations (Atkins et al., 2017; Gale et al., 2013). A combined method of directed content analysis and framework analysis was selected to analyse the data. The TDF was chosen as the analytical framework because the theoretical domains expand upon the components of the COM-B, to describe determinants of behaviour with more precision (Atkins et al., 2017). Content analysis was deemed the most appropriate approach to deductive coding, since the aim of the research was to recognise and code instances of particular drivers in the data according to pre-specified, unambiguous categories (Morgan, 1993; Woodrum, 1984). Framework analysis represents a natural complement to content analysis, since the codes can then be 'charted' on to the theoretical framework in a matrix (Gale et al., 2013). This allows for a systematic, rigorous analytical procedure that has a clear audit trail from raw data to explanatory themes, which improves the trustworthiness of the analysis (Sandelowski, 1993).

Intervention Design and Data Triangulation (Chapter 8)

Rationale for triangulation approach

Data triangulation is an essential element of this research programme, in order to synthesise the collected data into a series of intervention recommendations. Triangulation involves the combination of different data sources to examine a social phenomenon (Teddlie & Tashakkori, 2009). The Behaviour Change Wheel recommends that data from multiple sources must be synthesised (Michie et al., 2014) to adequately understand the target behaviour and its determinants prior to selecting intervention components (Ammerman et al., 2014; Fernandez et al., 2019). The COM-B (Michie et al., 2011) and TDF (Cane et al., 2012) will be used to facilitate the behavioural diagnosis since both frameworks map on to the Behaviour Change Wheel; this process involves identifying the most important targets for change, and the most appropriate intervention functions and BCTs). Decisions will be guided by the APEASE criteria. The results of the behavioural diagnosis and the decisions made to design the intervention using the eight steps of the Behaviour Change Wheel will be recorded as an intervention development paper. An intervention development study is necessary to provide a clear rationale for the intervention, describe the decisions made to design the intervention, and outline the methods of data synthesis that informed the design process (Hoddinott, 2015). This will ensure that the design process is transparent and accessible.

Chapter 4 Healthcare Professionals' Implementation of National Guidelines with Patients who Self-Harm (Paper 1)

This paper has been published in the Journal of Psychiatric Research.

Leather, J.Z., O'Connor, R.C., Quinlivan, L., Kapur, N., Campbell, S., & Armitage, C.J. (2020). Healthcare professionals' implementation of national guidelines with patients who self-harm. *Journal of Psychiatric Research*; 130, 405–411.

doi:10.1016/j.jpsychires.2020.08.031

Note. As this paper has been published, the formatting and layout are consistent with the requirements for the Journal of Psychiatric Research. For this chapter, the references will not follow APA style and will be placed at the end of the chapter rather than at the end of the thesis.

Abstract

Background: National guidelines for the short-term management of self-harm are typically 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 the guidelines among some groups of healthcare professionals. 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 that had previously encountered a patient who had self-harmed or was at risk of repeat self-harm, the guidelines were implemented in almost 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.

Highlights

- Most UK healthcare professionals (85.6%) have heard of the NICE guidelines for self-harm, but only a quarter are knowledgeable about their content.
- A minority (2.3%) use risk screening tools, particularly the SADPERSONS Scale and Beck's Self-Harm Inventory.
- NICE guidelines for self-harm were implemented with fewer than half (43.9%) of encounters with patients who have self-harmed, or are at risk of repeat self-harm.
- Awareness and implementation of the guidelines was consistently poorer from healthcare professionals working outside mental health services.

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” (1, 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, including in the UK (HM Government, 2019; World Health Organization, 2018). Recently the prevalence of self-harm has 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 a lack of awareness among healthcare professionals of national guidelines for self-harm. For example, an audit of 59 UK healthcare professionals working in a burns and plastic surgery unit showed 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; namely prescribing potentially lethal tricyclic medication to 3,985 patients (8.8%) from a primary care cohort of 41,500 presenting with self-harm, 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 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 (Steeg 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 specific groups of healthcare professionals ($Ns < 200$) unrepresentative of healthcare professionals in general. The aims of the present research were thus to identify: (a) what healthcare professionals, and in which settings, are aware of the UK NICE guidelines for self-harm; (b) the perceived

availability of training about the management of self-harm; (c) the use of risk assessment tools for repeat self-harm risk; and (d) the extent to which healthcare professionals implement the UK guidelines for self-harm.

Method

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. Participants were incentivised to take part with YouGov's 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 YouGov's GDPR regulations, no personally identifiable participant data were shared with the research team.

Ethics Statement

All procedures involving human participants were approved by a university research ethics committee in February 2019 (Ref: 2019-5456-9504). Written, 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 4.1.

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), in a set paragraph 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 had 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, 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. Analyses were conducted using SPSS version 25 and Microsoft Excel 2016.

Results

Sample characteristics

The sample ($n = 1020$, Table 4.1) 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%).

GPs worked in GP surgeries ($n = 62$, 92.5%), except for 4 in NHS hospitals (6.0%) and 1 working privately (1.5%). Most hospital doctors worked in NHS hospitals ($n = 86$, 80.4%), followed by mental health trusts ($n = 12$, 11.2%), community services ($n = 4$, 3.7%); the remainder worked in other unspecified settings ($n = 5$, 4.7%).

Mental health professionals included mental health workers ($n = 50$, 59.5%), counsellors and psychotherapists ($n = 20$, 23.8%), psychologists ($n = 9$, 10.7%) and therapists ($n = 5$, 6.0%). 38.1% of mental health professionals worked for mental health trusts ($n = 32$), 27.4% for NHS hospitals ($n = 23$), 10.7% in community services ($n = 9$), and 4.8% in GP surgeries ($n = 4$). Of the 19.0% ($n = 16$) working elsewhere, 11 worked in private practice, and 4 worked in other unspecified settings.

The uncategorised patient-facing category included healthcare assistants ($n = 74$, 36.5%), midwives ($n = 32$, 15.8%), health visitors ($n = 23$, 11.3%), support workers ($n = 23$, 11.3%), care workers ($n = 15$, 7.4%), surgeons ($n = 12$, 5.9%), social workers ($n = 8$, 3.9%), dentists ($n = 6$, 3.0%), dental hygienists ($n = 3$, 1.5%), occupational therapists ($n = 3$, 1.5%), pharmacists ($n = 2$, 1.0%), physiotherapists ($n = 1$, 0.5%) and complementary therapists ($n = 1$, 0.5%). Most worked in NHS hospitals ($n = 108$, 53.2%), community services ($n = 39$, 19.2%), GP surgeries ($n = 22$, 10.8%), and mental health trusts ($n = 10$, 4.9%). 24 (11.8%) worked in other unspecified settings, 8 of which were working privately.

A breakdown of the nursing category was not available by nursing occupation. Most worked in NHS hospitals ($n = 284$, 50.8%); 214 were within an

Acute Care setting, 33 in Primary Care, 18 (3.2%) in Tertiary Care and 12 (2.1%) in Community Care. 69 (12.3%) worked for community services; 57 (10.2%) in Community Care, and 6 (1.1%) in Primary Care. 58 (10.4%) worked for a mental health trust; 19 (3.4%) in Acute Care, 29 (5.2%) in Community Care and 3 (0.6%) in Tertiary and Primary Care. 55 (9.8%) worked in GP surgeries, 35 (6.3%) worked in private practice and 53 (9.5%) worked in other unspecified settings.

Comparisons with NHS staff demographics were not made by occupation and setting because of differing category groups in the NHS digital data set (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 4.1).

Awareness of NICE guidelines for self-harm

Results are presented in Table 4.2. 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%).

Table 4.1: Sample Demographics

Variable	<i>n</i>	(%)	NHS data <i>n</i> ^a	NHS data (%) ^a	χ^2 for difference between sample and population
Gender					$\chi^2 = 8.42$ $p < 0.01$, $r < 0.01$
Women	824	80.78	960,863	76.96	
Men	196	19.22	287,696	23.04	
Age					$\chi^2 = 51.85$ $p < 0.01$, $r = 0.01$
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	
Ethnicity					$\chi^2 = 290.72$ $p < 0.01$, $r = 0.02$
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	
Location					
England	824	80.78	-	-	
Scotland	114	11.18	-	-	
Wales	64	6.27	-	-	
Northern Ireland	18	1.76	-	-	
Profession					
GP	67	6.57	-	-	

^a NHS data according to NHS workforce statistics 2019

Hospital doctor	107	10.49	-	-
Nurse	559	54.80	-	-
Mental health professionals	84	8.24	-	-
Uncategorised	203	19.90	-	-
Length of time practicing				
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	-	-
Work setting				
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	-	-
Organisation Type				
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	-	-

Table 4.2: Awareness and implementation of NICE guidelines for self-harm

Question	<i>n</i>	(%)	Mean %	(SD)
How familiar are you with the NICE guidelines for self-harm? [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	-	-
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? [1015 responses]				
Yes	124	12.22	-	-
No	807	79.51	-	-
Don't know	84	8.28	-	-
Have you ever taken part in training for the assessment and management of self-harm? [1020 responses]				
Yes	312	30.59	-	-
No	708	69.41	-	-
How recent was this? [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	-	-

Did your training sufficiently prepare you to assess and manage self-harm? [312 responses]

Yes	197	63.14	-	-
No	72	23.07	-	-
Don't know	43	13.78	-	-
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? [539 responses]	-	-	43.89	38.79

Awareness was poor across all professional groups, particularly among nurses ($n = 123$, 22.0%) and Uncategorised patient-facing professionals ($n = 25$, 12.3%). 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 in NHS hospitals.

Mental health professionals were the exception: 50% ($n = 42$) were aware of the guidelines (Table 4.3). Awareness differed significantly between professional groups ($\chi^2(4, N = 1020) = 55.68, p < .001, r = .23$). 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 ($p < .01, r = .11$).

Table 4.3: Awareness and implementation of NICE guidelines by healthcare professional group

Question	Healthcare professional group					X^2/F
	GP	HPDR ^b	Nurse	MHP ^b	Uncat ^c	
How familiar are you with the guidelines?						$X^2(4, N = 1020) = 55.68, p < .001, r = .23$
(Aware of guidelines)	24/67 (35.82%)	34/107 (31.78%)	123/559 (22.00%)	42/84 (50.00%)	25/203 (12.32%)	
(Limited awareness of guidelines)	43/67 (64.18%)	73/107 (68.22%)	436/559 (78.00%)	42/84 (50.00%)	178/203 (87.68%)	
Have you ever used a tool or resource?						$X^2(4, N = 1015) = 44.92, p < .001, r = .21$
(Yes)	3/67 (4.48%)	16/107 (14.95%)	63/557 (11.27%)	28/84 (33.33%)	14/200 (6.90%)	
(No)	64/67 (95.52%)	91/107 (85.05%)	494/557 (88.37%)	56/84 (66.66%)	186/200 (91.63%)	
Have you ever taken part in training?						$X^2(4, N = 1020) = 125.59, p < .001, r = .35$

^b Hospital doctor; ^b Mental health professional; ^c Uncategorised

(Yes)	37/67 (55.22%)	54/107 (50.47%)	144/559 (25.76%)	54/84 (64.29%)	23/203 (11.33%)
(No)	30/67 (44.78%)	53/107 (49.53%)	415/559 (74.2%)	30/84 (35.71%)	180/203 (88.67%)

How recent was your training?

$X^2(4, N = 312) = 5.38, p = .25, r = .13$

(Within 5 years)	23/37 (62.16 %)	37/54 (68.52%)	83/144 (57.64%)	40/54 (74.07 %)	14/23 (60.87%)
(More than 5 years)	14/37 (37.84%)	17/54 (31.48%)	61/144 (42.36%)	14/54 (25.93%)	7/23 (39.13%)

Did your training sufficiently prepare you?

$X^2(4, N = 312) = 16.29, p < .01, r = .23$

(Yes)	23/37 (62.16%)	35/54 (64.81%)	87/144 (60.42%)	44/54 (81.48%)	8/23 (34.78%)
(No)	14/37 (37.84 %)	19/54 (35.19%)	57/144 (39.58%)	10/54 (18.52%)	15/23 (65.22%)

With what proportion of patients did you implement the NICE guidelines?

$F(4, 534) = 10.41, p < .001, \eta^2_p = .07$

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)
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Training

Thirty-one percent ($n = 312$) of respondents had training about the assessment and management of self-harm (Table 4.2). Most (63.1%, $n = 197$) had done so within the last five years. 11.5% ($n = 36$) had training more than ten years ago, and 7.4% ($n = 23$) could not recall when it took place. Sixty-three percent ($n = 197$) reported their training had sufficiently prepared them to assess and manage self-harm, and the remainder were either unsure (13.8%, $n = 43$) or believed it was insufficient (23.1%, $n = 72$).

Training availability differed significantly between professions ($X^2(4, N = 1020) = 125.59, p < .001, r = .35$) (Table 4.3). Mental health professionals had most often undergone training ($n = 54, 64.3\%$). Approximately half of GPs ($n = 37, 55.2\%$) and hospital doctors ($n = 54, 50.5\%$) had been trained, in contrast to 25.8% ($n = 144$) 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 ($n = 180, 88.7\%$); those in community ($n = 9, 23.1\%$) and mental health services ($n = 2, 20.0\%$) were more likely to have had training compared to those 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 ($p < .001, r = .28$), GPs ($p < .001, r = .20$) and hospital doctors ($p < .001, r = .20$). Uncategorised patient-facing professionals were less likely than mental health professionals ($p < .001, r = .54$), GPs ($p < .001, r = .46$), hospital doctors ($p < .001, r = .43$), and nurses ($p < .001, r = .15$) 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

12.2% ($n = 124$) of participants reported ever using a tool or resource to aid their assessment and management of self-harm (Table 4.2). Mental health professionals most often used tools ($n = 28, 37.84\%$) while GPs least often used tools ($n = 3, 5.2\%$). Tool use differed significantly between professionals ($X^2(4, N = 1015) = 44.92, p < .001, r = .21$) (Table 4.3). 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, the Face Scale, 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. Professionals implemented the guidelines with a mean of 43.9% (SD = 38.8) of the patients they had encountered (Table 4.2). 18.4% of respondents ($n = 99$) never implemented the guidelines with any patients. Mental health professionals (M = 64.4%, SD = 35.9) and GPs (M = 61.5, SD = 36.0%) reported implementing the guidelines with the greatest proportion of patients, while Uncategorised professionals implemented the guidelines with the lowest proportion (M = 29.1%, SD = 35.7) (Table 4.3). 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 4.1).

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 ($ps < .001$). GPs implemented the guidelines with significantly greater proportion of patients than nurses and Uncategorised professionals ($ps < .05$). Uncategorised professionals implemented the guidelines with a significantly smaller proportion of patients than the other healthcare professionals ($ps < 0.05$), apart from nurses ($p = .07$).

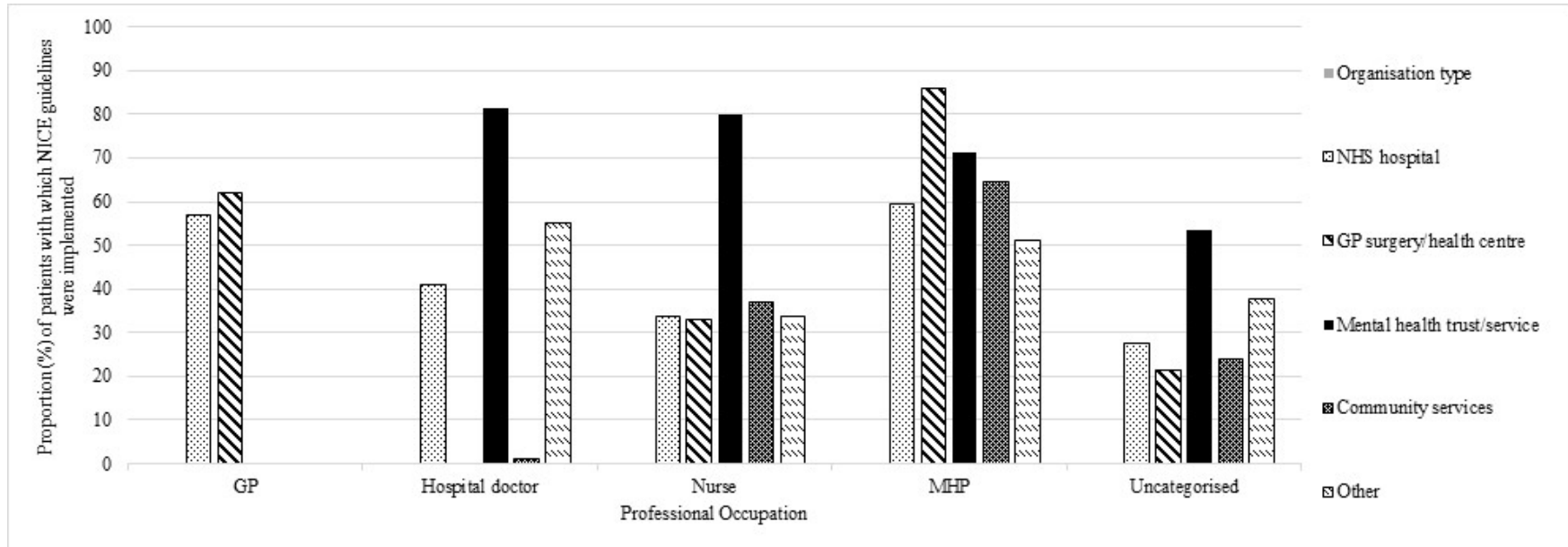
Discussion

Main findings

The present study sought for the first time to examine implementation of the NICE guidelines for self-harm, and the availability of training and tools to aid the assessment and management of self-harm in a representative sample of healthcare professionals.

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) findings that a minority of professionals who were aware of guidelines have 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.

Figure 4.1: Implementation of NICE guidelines for self-harm by professional occupation and work organisation (n = 539).



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 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).

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.

Despite the recommendation that all staff who may encounter self-harm 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).

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, particularly 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).

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 particularly 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 who were 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 attempt to 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.

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**Chapter 5 Identifying Targets for Interventions to Improve Healthcare
Professionals' Implementation of National Guidelines for Self-Harm (Paper 2)**

This article is under review at The Journal of Mental Health.

Note. As this paper is awaiting publication, the formatting and layout are consistent with the requirements for The Journal of Mental Health. For this chapter, the references will not follow APA style and will be placed at the end of the chapter rather than at the end of the thesis.

Abstract

Background: Some healthcare professionals do not, or cannot, always apply national guidelines for self-harm. Aims: (a) assess implementation of national guidance among healthcare professionals that encounter self-harm; (b) examine factors associated with implementing the guidelines; and (c) identify potential intervention targets using the COM-B.

Methods: A sub-sample of 384 healthcare professionals, who were aware of the NICE guidelines for self-harm and had a history of exposure to patients who self-harmed, were identified from a nationally-representative cross-sectional survey.

Results: Approximately half of respondents ($M = 46.60\%$, $SD = 37.75$) failed to implement the guidelines when encountering a patient. Healthcare professionals reported high capabilities, but lower automatic motivation (habits) and fewer physical opportunities (environmental restrictions). Implementation was associated with training about self-harm, better knowledge of the guidelines, and perceiving greater levels of capabilities, opportunities and motivations.

Conclusions: Interventions to change professional practice should go beyond providing training resources and support healthcare professionals' capabilities, opportunities and motivations, focusing on increasing automatic motivation and providing physical opportunities to implement the NICE guidelines for self-harm. The Behaviour Change Wheel offers candidate intervention functions for exploration, including environmental restructuring (e.g.: longer appointments) and enablement (e.g.: software prompts) to address deficits in physical opportunities and automatic motivation.

Keywords: self-harm, evidence based guidelines, implementation

Highlights

- Healthcare professionals have sufficient capabilities to follow national guidance
- Deficits in physical opportunity (e.g.: time; resources) prevent implementation
- Lack of automatic motivation (e.g.: habits) is also a barrier to implementation
- Interventions should go beyond traditional training and educational resources
- Functions such as environmental restructuring and enablement should be utilised

Introduction

There are hundreds of thousands of presentations for self-harm each year in the UK across hospitals (Tsiachristas et al., 2020), prisons and secure facilities (Dickinson & Hurley, 2012; Hawton et al., 2014), primary care (Marchant et al., 2020), and the wider community (Geulayov et al., 2018; Haddad et al., 2010), meaning healthcare professionals are highly likely to encounter patients who self-harm. Rates of self-harm are greatest in areas of high unemployment and social deprivation (Hawton et al., 2016; Polling et al., 2019), which is of renewed concern in light of the social inequalities aggravated by and economic recession resulting from COVID-19-related disruption. There remains debate over whether any tangible progress has been made in improving services for self-harm (House & Owens, 2020; Kapur, 2020), making the development of effective interventions a priority.

In England and Wales, the National Institute for Health and Care Excellence (NICE) provide guidelines for the short- and long-term assessment and management of self-harm for all healthcare professionals who may be involved in the care of a person who has self-harmed (National Institute for Health and Care Excellence, 2004, 2011). Implementation of these guidelines is paramount to maximising patient safety; a UK-wide audit of mental health services found implementation of the NICE guidance for self-harm lowered suicide rates by 22.9% (Kapur et al., 2016). Particular emphasis has been placed on increasing the availability of psychosocial assessments following self-harm, which are associated with an 18-40% reduction in the risk of repeat self-harm (Carroll et al., 2016; Kapur et al., 2013; Steeg et al., 2018).

Despite the benefits of implementing national self-harm guidance for patient safety, preliminary studies suggest the guidance is not always applied by some healthcare professionals: The proportions of people who actually receive a psychosocial assessment each time they self-harm vary between 22-88% (Cooper et al., 2013) and 38.2-65.6% (Geulayov et al., 2016). However, knowing how few psychosocial assessments are implemented does not provide insight into why psychosocial assessments are not always implemented, and how implementation can be improved. A recent representative survey of UK healthcare professionals found that, in spite of high awareness of the NICE guidelines for self-harm (86%, $n = 873$), guidelines were implemented with fewer than half (44%) of the patients they encountered who had self-harmed or were at risk of repeat self-harm (Leather et al., 2020). While the study demonstrates a need for improved knowledge of the guidelines, it also suggests that other factors may influence healthcare professionals' capacity to implement the guidelines. In particular, Leather et al.'s (2020) sample comprised many healthcare professionals that rarely encountered patients who self-harmed or had not heard of the NICE guidelines. Since they would have fewer opportunities to implement the national guidance, limited conclusions can be drawn to inform the design of interventions to support implementation; as such, more targeted data is needed from healthcare professionals that are likely to encounter self-harm more frequently.

The barriers and enablers to implementing national guidance for self-harm across healthcare domains are poorly understood. Evidence suggests that lack of knowledge (Heyward-Chaplin et al., 2018) and skills training (Mullins et al., 2010) may contribute to low uptake of the NICE guidelines. However, according to Michie et al.'s (2011) capabilities (C), opportunities (O), and motivations (M) model of behaviour change (B; COM-B), for healthcare professionals to implement the NICE guidelines, they additionally require physical opportunities (e.g.: time or environmental influences), social opportunities (e.g.: social cues or interpersonal influences), reflective motivation (e.g.: intentions, or conscious planning), and automatic motivation (e.g.: emotional reactions and habits). Lack of knowledge (psychological capability) and skills (physical capability) are therefore just two possible drivers of practice change and a more complete analysis of the factors influencing the use of the guidelines in practice is required (Gurses et al., 2010).

Analysis of healthcare professionals' implementation of national guidance for self-harm using COM-B is a first step in developing interventions to improve practice (Michie et al., 2014). Following behavioural diagnosis using the COM-B it would then be possible to use the Behaviour Change Wheel to identify appropriate intervention functions, and policy categories to enable the interventions to occur (Michie et al., 2011, 2014).

The present study aimed to build on previous research (Leather et al., 2020) by: (a) assessing the implementation of national guidance for self-harm among healthcare professionals that have encountered self-harm; (b) examining factors associated with implementing the guidelines; and (c) identifying targets for the development of a quality improvement intervention.

Materials and Methods

Design and procedure

The design was cross-sectional. Data were collected via an online questionnaire as part of a wider survey about professional encounters with patients who self-harm (Leather et al., 2020), and was conducted through a market research company (YouGov). Participants were incentivised to take part with a points-based system, where respondents accumulate points for completing surveys, in exchange for prize draws or cash payment (YouGov, 2018). Survey responses were collected and anonymised by the company, then transferred to the researchers for analysis. A university ethics committee reviewed the study design and granted ethical approval in February 2019 (Ref: 2019-5456-9504). Written, informed consent was obtained from all participants at the beginning of the questionnaire, after the nature of the procedures had been fully explained. In accordance with YouGov's GDPR regulations, no personally identifiable participant data was shared with the research team.

Participants

The sample comprised 384 patient-facing healthcare professionals in the NHS and private practice (see Table 5.1 for details). Participants were a sub-sample identified from a wider survey population of 1020 healthcare professionals about awareness of the NICE guidelines for self-harm (Leather et al., 2020), that were selected on the basis that they had: (a) previously encountered a patient who had

self-harmed or was at risk of repeat self-harm and (b) had already heard of the NICE guidelines. This was to ensure that the analysis of psychosocial drivers was conducted on healthcare professionals who have had the opportunity and capability to implement the NICE guidelines. A majority of participants reported that they encounter a patient that has self-harmed in a typical month ($n = 353, 91.9\%$), therefore the sample was deemed to comprise healthcare professionals that routinely encounter self-harm.

Table: 5.1 Sample Demographics

Variable	Aware of Guidelines and Exposed to Self-Harm ($n = 384$)	
	<i>n</i>	%
Gender		
Women	295	76.82
Men	89	23.18
Age		
18-34	79	20.57
35-44	98	25.52
45-54	105	27.34
55+	102	26.56
Ethnicity		
White	351	91.40
BAME	28	7.30
Prefer not to say	5	1.30
Profession		
GP	35	9.10
Hospital doctor	45	11.70

Nurse	202	52.60
Mental health professionals	54	14.10
Uncategorised	48	12.50
Length of time practicing		
Still qualifying/first year	15	3.90
1-3 years	29	7.60
4-6 years	55	14.30
7-10 years	56	14.60
11-15 years	49	12.80
16-20 years	34	8.90
Over 20 years	146	38.00
Work setting		
NHS Acute Care	128	33.30
NHS Tertiary Care	30	7.80
NHS Community Care	75	19.50
NHS Primary Care	81	21.10
Independent	22	5.70
Other	48	12.50
Organisation type		
NHS hospital	158	41.10
GP surgery/health centre	57	14.80
Mental health trust/service	83	21.60
Community services	38	9.90
Other	48	12.50
Awareness of guidelines		
Aware of guidelines	178	46.40

Limited awareness	206	53.60
Training about self-harm		
Yes	210	54.70
No	174	45.30
Encounter patients that self-harm in a typical month		
Yes	353	91.93
No	9	2.34
Not sure	22	5.73

Compared with the 636 healthcare professionals who had either never encountered a patient who had self-harmed, or had not previously heard of the NICE guidelines, professionals included in the present study were more likely to be men ($n = 89, 23.2\%$, $r = .08$), mental health professionals ($n = 54, 14.1\%$, $r_s = .19-.39$), and working in mental health services ($n = 83, 21.6\%$, $r_s = .34-.43$). The main analyses focus on those healthcare professionals who had both heard of the NICE guidelines and had encountered a patient who had self-harmed, and who would thus be expected to have implemented the NICE guidelines on at least one occasion.

Measures

The questionnaire was adapted from an existing survey of healthcare professionals (Keyworth et al., 2018). The following items were administered as part of a wider survey about professional encounters with patients who self-harm.

Implementation of NICE guidelines

Respondents were asked: “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?”. Participants estimated the proportion of patients with whom they implemented the guidelines for self-harm using a sliding 0-100% scale.

Psychosocial variables

COM-B was operationalised using Keyworth et al.'s (2020) measure. The measure comprises single items designed to assess the six drivers of behaviour, namely: physical capability, psychological capability, physical opportunity, social opportunity, automatic motivation and reflective motivation. The measure was designed to be adapted for use across different behaviours and populations, including healthcare professionals' delivery of opportunistic behaviour change interventions (Keyworth et al., 2020) and public adherence to government instructions about COVID-19 (Armitage et al., 2021).

Consistent with Keyworth et al.'s (2020) guidance, the items were adapted by the research team to refer to the NICE guidance (e.g.: "I am PHYSICALLY able to implement the NICE guidelines for assessing and managing self-harm."). Following the statement there was a definition of the relevant construct to maximise participant understanding (e.g.: "What is PHYSICAL capability? Having the physical skill, strength or stamina to engage in the activity concerned. [e.g.: I have sufficient physical stamina]."). Each example was further adapted to the target behaviour to enhance understanding (e.g.: "I have sufficient physical stamina to implement the NICE guidelines, I can overcome disability to implement the guidelines, I have sufficient physical skills to implement the guidelines").

The adapted survey items are presented in full in Table 5.2. Physical capability, psychological capability, automatic motivation and reflective motivation were all assessed on 10-point (1 = strongly disagree, 10 = strongly agree) scales. The measures for physical and social opportunity were adapted following the involvement of a pilot sample of healthcare professionals; some struggled to respond to the opportunity items using 0-100% scales, so they were changed to Yes/No scales to limit the number of non-responses (e.g.: "If you saw a patient in the next working week who had self-harmed or you thought was at risk of self-harm, do you think you would have the SOCIAL opportunity to implement the NICE Guidelines for assessing and managing self-harm?").

Table 5.2: Continuous outcome measure and COM variables (n = 384)

Variable	n	(%)	M	SD
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:	-	-	46.60	37.75
I am MOTIVATED to implement the NICE guidelines for assessing and managing self-harm:	-	-	7.71	2.20
High	321	83.59	-	-
Low	63	16.41	-	-
I am PSYCHOLOGICALLY able to implement the NICE guidelines for assessing and managing self-harm:	-	-	7.13	2.53
High	289	75.26	-	-
Low	95	24.74	-	-
If you saw a patient in the next working week who had self-harmed or you thought was at risk of self-harm, do you think you would have the SOCIAL opportunity to implement the NICE Guidelines for assessing and managing self-harm? (n = 319):				
Yes	221	69.28	-	-
No	98	30.72	-	-
I am PHYSICALLY able to implement the NICE guidelines for assessing and managing self-harm:	-	-	6.47	2.66
High	257	66.93	-	-
Low	127	33.07	-	-
Implementing the NICE guidelines for assessing and managing self-harm is something I do AUTOMATICALLY:	-	-	6.30	2.80
High	235	61.20	-	-
Low	149	38.80	-	-
If you saw a patient in the next working week who had self-harmed or you thought was at risk of self-harm, do you think you would have the PHYSICAL opportunity to implement the NICE Guidelines for assessing and managing self-harm? (n = 335):				
Yes	199	59.40	-	-
No	136	40.60	-	-

Analyses

Descriptive statistics were used to summarise each variable. In addition to reporting means and standard deviations for the capability and motivation items, we dichotomised them by classifying scores of 1-5 as “low” and 6-10 as “high”, to facilitate direct comparison with the measures of opportunity. Within-participants ANOVA with deviation contrasts were used to explore differences in opportunities, capabilities and motivations to implement the guidelines. Multiple regression analysis was used to examine the association of COM variables with guideline implementation. Zero order correlations showed that the continuous capability and motivation variables were significantly positively correlated with implementation of the guidelines ($r_s = .56-.78, p_s < .001$). Since these variables were also intercorrelated ($r_s = .61-.73, p_s < .001$), regression models were run separately for each COM variable, each model was adjusted to control for potential correlates (previous training about self-harm, awareness of the NICE guidelines, professional role and organisation type).

Results

Sample characteristics

Healthcare professionals who had both heard of the NICE guidelines and had encountered a patient who had self-harmed reported failing to implement the NICE guidelines on approximately half ($M = 46.60\%$, $SD = 37.75$) of the occasions on which they had encountered patients who they thought had self-harmed or were at risk of repeat self-harm (Table 5.2). Despite this, 83.59% (321/384) of participants reported that they were high in reflective motivation (e.g.: conscious plans and intentions) and felt psychologically capable (e.g.: necessary knowledge and mental stamina) (75.26%, 289/384) of implementing the NICE guidelines. Just 59.4% (199/384) of participants reported that they had the physical opportunity, and 61.20% (235/384) said they had the automatic motivation to implement the guidance.

Table 5.3: Multiple regression analysis predicting healthcare professionals' implementation of NICE guidelines (continuous)

Model variables	B	SE B	95% CI	p value
Training	18.72	4.01	10.82, 26.61	$p < .001$
Knowledge of guidelines	21.73	3.68	14.49, 28.97	$p < .001$
Role (GP)	20.39	8.64	3.40, 37.38	$p < .05$
Role (Hospital Dr)	9.61	6.90	-3.95, 23.18	$p = .16$
Role (Nurse)	5.10	5.18	-5.08, 15.29	$p = .33$
Role (Mental health professional)	11.65	6.64	-1.42, 24.71	$p = .08$
Organisation (NHS hospital)	9.00	5.36	-1.53, 19.53	$p = .09$
Organisation (GP surgery)	2.19	7.58	-12.72, 17.10	$p = .77$
Organisation (Mental health trust)	21.43	5.78	10.06, 32.81	$p < .001$
Organisation (Community Services)	4.49	6.89	-9.06, 18.03	$p = .52$
Physical Opportunity	25.40	3.58	18.36, 32.44	$p < .001$
Social Opportunity	17.45	3.93	9.72, 25.19	$p < .001$
Automatic Motivation	9.01	0.51	8.00, 10.01	$p < .001$
Reflective Motivation	6.83	0.74	5.37, 8.29	$p < .001$
Physical Capability	6.40	0.58	5.26, 7.53	$p < .001$
Psychological Capability	5.71	0.65	4.44, 6.99	$p < .001$

Associations between psychosocial variables and implementation

Multiple regression (Table 5.3) revealed that healthcare professionals who had training about self-harm ($\beta = .25, p < .001$), were knowledgeable about the NICE guidelines ($\beta = .29, p < .001$), were GPs ($\beta = .16, p < .05$) or worked for a mental health trust ($\beta = .23, p < .001$) were significantly more likely to implement the NICE guidelines for self-harm. After controlling for these variables, healthcare professionals' perceptions of their capabilities (physical: $\beta = .45, p < .001$;

psychological: $\beta = .38, p < .001$), opportunities (physical: $\beta = .33, p < .001$; social: $\beta = .22, p < .001$) and motivations (reflective: $\beta = .40, p < .001$; automatic: $\beta = .67, p < .001$) were also significantly associated with implementing the NICE guidelines for self-harm.

Discussion

Main findings

This study aimed to assess the implementation of national guidance for self-harm in a large sample of healthcare professionals and identify psychosocial targets for intervention using the COM-B model. Professionals surveyed in this study were already aware of the NICE guidelines for self-harm and had encountered at least one patient that had self-harmed before. Healthcare professionals in this study reported failing to implement the guidelines with 46% of the patients they encountered who had self-harmed, or were at risk of repeat self-harm. This proportion is significantly less than healthcare professionals in general (56% ; Leather et al., 2020). Despite this, in general our sample of healthcare professionals was high in reflective motivation (84%), psychological capability (75%), social opportunity (69%) and physical capability (66%) to implement the guidance.

Consistent with the analyses reported above, capabilities, opportunities and motivations were predictive of implementation of the guidelines. Key additional predictors were previous training and knowledge of the guidelines, which were independently predictive of guideline implementation after controlling for the influence of capabilities. Our finding that existing training and knowledge independently supported guideline implementation contrasts with research indicating that a lack of knowledge and skills may be a barrier to implementing self-harm guidelines (Heyward-Chaplin et al., 2018; Mullins et al., 2010). Capabilities were high among our sample which implies that participants did not perceive that they were lacking in knowledge and skills to implement the guidelines. This was surprising because the influence of previous training about self-harm and knowledge of the guidelines on implementation should theoretically have been mediated by the measure of capability. A potential reason for this direct effect may be that the sample felt they were competent to care for people that have self-harmed due to their existing training and professional experience (National Collaborating Centre For

Mental Health, 2018). This may be due to a lack of familiarity with the guideline content or access to specific training about self-harm, or because the sample felt confident to treat patients with or without the guidelines using their professional discretion (Cheraghi-Sohi & Calnan, 2013). An alternative explanation is that the dichotomised measures of COM-B constructs used in the analysis may have failed to sufficiently capture mediation effects.

In terms of barriers among the present sample, automatic motivation and physical opportunity were lowest suggesting that they should be prioritised as intervention targets. Existing research has demonstrated that lack of habit (Egerton et al., 2018) and feelings of unease discussing sensitive topics (McDonagh et al., 2018) can present barriers to guideline implementation. Similarly, a lack of time (Fleming et al., 2014), resources (Alexander et al., 2014) and reminders in the environment (Giglia & Reibel, 2019) are common impediments to physical opportunity. Unsurprisingly, these barriers are also prevalent among healthcare professionals that encounter patients who self-harm; some hospital staff report challenges managing their emotions and distress tolerance (O'Connor & Glover, 2017), while others feel constrained in the assessments and treatments they can offer patients due to time pressures and a lack of resources (Chandler et al., 2016; Rees et al., 2015).

Interventions that target automatic motivation commonly employ incentivisation strategies to provide material (Behaviour Change Technique Taxonomy v1 [BCTTv1] 10.1 (Michie et al., 2013)) or social rewards (BCTTv1 10.5) for guideline implementation (Atkins, Chadborn, et al., 2020; Steinmo et al., 2015). However, a review found that some healthcare professionals question the justifications behind offering incentives for actions that are already part of their role; more acceptable intervention functions included regular feedback (enablement; BCTTv1 2.7), and demonstrations of how to approach difficult topics without causing offence or embarrassment (modelling; BCTTv1 6.1) (McDonagh et al., 2018). In light of the mixed evidence for the utility and acceptability of incentivisation for sensitive topics, functions such as enablement, modelling, and environmental restructuring may be more appropriate to enhance automatic motivation to implement the self-harm guidelines (summarised in Figure 5.1).

With respect to physical opportunity, interventions most often add objects to the physical environment, such as written resources or tools (BCTTv1 12.5) (Atkins, Chadborn, et al., 2020; Steinmo et al., 2015). An implementation strategy for an encephalitis guideline involved adding prompts and reminders to the environment to support healthcare professionals to respond to clinical cues (BCTTv1 7.1) (Backman et al., 2015). Although this function targeted both physical opportunity and automatic motivation, the intervention did not elicit a significant improvement in clinical outcomes (Backman et al., 2018). Many studies advocate for more ambitious interventions, such as the establishment of new care pathways (Fingleton et al., 2019), or restructuring appointment times (BCTTv1 12.1) (Atkins, Stefanidou, et al., 2020). While the addition of prompts or reminders may aid implementation of the NICE guidelines for self-harm to an extent, the multifarious aspects of physical opportunity may demand more complex interventions requiring fiscal input to address deficits in resources (Figure 5.1).

Strengths and limitations

This research provides theoretically-informed insight into factors associated with implementation of the NICE guidelines for self-harm in a large sample representative of healthcare professionals who are both aware of the guidelines and who have encountered patients who have self-harmed or who were at risk of self-harm. Further, it establishes some directions for future research to develop a quality improvement intervention. However, the authors acknowledge some limitations. Since guideline implementation was estimated by healthcare professionals it is unclear whether recalled implementation behaviour is a reliable measure of actual behaviour; future studies should attempt to measure guideline implementation using alternative outcome measures such as audits of prescribing and referral behaviours, or changes in patient health outcomes over time (Docherty et al., 2017; Johnson & May, 2015). The cross-sectional design means causality between the variables and implementation cannot be inferred.

Figure 5.1: Exemplar Behaviour Change Techniques to Support Implementation of the NICE Guidelines using BCTTv1

COM-B component	Description of COM-B component	Intervention function	Individual behaviour change techniques	Policy categories	Exemplar Interventions
Automatic motivation	Automatic processes involving emotional reactions, desires (wants and needs), impulses, inhibitions, drive states and reflex responses.	Environmental restructuring	Adding objects to the environment (BCTTv1 12.5)	Guidelines	Demonstrate how to discuss self-harm with patients without causing or contributing to distress (BCTTv1 6.1: Demonstration of the behaviour; Intervention function: Modelling; Policy category: Service provision).
		Modelling	Prompts/cues (BCTTv1 7.1)	Fiscal measures	
		Enablement	Restructuring the physical environment (BCTTv1 12.1)	Regulation	
			Demonstration of the behaviour (BCTTv1 6.1)	Environmental/social planning	
			Social support (BCTTv1 3.1)	Communication/marketing	Implement a software pop-up that advises healthcare professionals to review potentially unsafe medications that the patient may have been prescribed (BCTTv1 7.1: Prompts/cues; Intervention function: Environmental restructuring; Policy category: Environmental planning).
				Service provision	

Physical opportunity	Opportunity afforded by the environment involving time, resources, locations, cues, physical 'affordance'.	Environmental restructuring Enablement	<p>Adding objects to the environment (BCTTv1 12.5)</p> <p>Prompts/cues (BCTTv1 7.1)</p> <p>Restructuring the physical environment (BCTTv1 12.1)</p> <p>Social support (BCTTv1 3.1)</p> <p>Problem solving (BCTTv1 1.2)</p> <p>Restructuring the social environment (BCTTv1 12.2)</p>	<p>Guidelines</p> <p>Fiscal measures</p> <p>Regulation</p> <p>Environmental/ social planning</p> <p>Service provision</p>	<p>Provide a list of local self-harm organisations that the healthcare professional can signpost or refer patients to (BCTTv1 12.5: Adding objects to the environment; Intervention function: Environmental restructuring; Policy category: Communication/marketing).</p> <p>Increase the availability of healthcare professionals that can conduct psychosocial assessments for patients that have self-harmed (BCTTv1 12.2: Restructuring the social environment; Intervention function: Enablement; Policy category: Service provision).</p>
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Conclusions

Implementation of the NICE guidelines for self-harm is associated with reduced risk of repeat self-harm (Carroll et al., 2016; Steeg et al., 2018) and suicide (Kapur et al., 2016; While et al., 2012). The present findings corroborate existing research that implementation of the NICE guidelines is variable among healthcare professionals (Geulayov et al., 2016; Heyward-Chaplin et al., 2018). Our findings acknowledge the importance of acquiring the knowledge and skill competencies that healthcare professionals require to support people who self-harm through training and educational resources (National Collaborating Centre For Mental Health, 2018). However, we also provide preliminary evidence about modifiable factors that could enable healthcare professionals to better implement the NICE guidelines for self-harm, that goes beyond the influence of existing knowledge and skills provision. The new NICE guidelines for self-harm are in development (National Institute for Health and Care Excellence, 2021). Improving and sustaining the capabilities, opportunities and motivations of healthcare professionals to implement new and existing clinical guidance should be a priority. Interventions that target physical opportunity (e.g.: through modification of healthcare professionals' environments) and automatic motivation (e.g.: by enhancing healthcare professionals' adherence to habits and emotional regulation) may be particularly important.

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**Chapter 6 Examining Drivers of Self-Harm Guideline Implementation by
General Practitioners: A Qualitative Analysis using the Theoretical Domains
Framework (Paper 3)**

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Abstract

Objectives: This study aimed to: (1) examine barriers and enablers to General Practitioners' (GP) use of National Institute for Health and Care Excellence (NICE) guidelines for self-harm, and (2) recommend potential intervention strategies to improve implementation of them in primary care. Design: Qualitative interview study.

Methods: Twenty-one telephone interviews, semi-structured around the capabilities, opportunities and motivations model of behaviour change (COM-B), were conducted with GPs in the UK. The Theoretical Domains Framework was employed as an analytical framework. Using the Behaviour Change Wheel, Behaviour Change Techniques (BCTs), intervention functions, and exemplar interventions were identified.

Results: GPs valued additional knowledge about self-harm risk assessments (knowledge), and communication skills were considered to be fundamental to high-pressure consultations (cognitive and interpersonal skills). GPs did not engage with the guidelines due to concerns that they would be a distraction from patient cues about risk during consultations (memory, attention and decision processes), and perceptions that following the guidance is difficult due to time pressures and lack of access to mental health referrals (environmental context and resources). Clinical uncertainty surrounding longer-term care for people that self-harm, particularly patients that are waiting for or cannot access a referral, drives GPs to rely on their professional judgement over the guidance (beliefs about capabilities).

Conclusions: Three key drivers related to information and skill needs, guideline engagement, and clinical uncertainty need to be addressed to support GPs to be able to assess and manage self-harm. Five intervention functions and ten BCT groups were identified as potential avenues for intervention design.

Keywords: self-harm; general practice; evidence-based guidelines

Statement of Contribution

What is already known on this subject?

- General Practitioners (GPs) have unique opportunities to identify and intervene in self-harm.
- Some GPs do not implement NICE guidance about self-harm due to a lack of awareness and resources.
- The drivers of guideline use that could potentially inform intervention strategies are unclear.

What does this study add?

- GPs need further training to address skill gaps relating to consultations about self-harm.
- Guidelines must be optimised for quick-reference to support decision-making during consultations.
- Further guidance is needed about supporting patients who self-harm while waiting for a referral.

Introduction

Self-harm encompasses “any act of self-poisoning or self-injury carried out by an individual irrespective of motivation” (National Institute for Health and Care Excellence, 2011, p. 4), and is an important risk factor for suicide among adults of all ages (Bergen et al., 2012). Services for self-harm in the United Kingdom (UK) are under intense demand and scrutiny due to the increased incidence of self-harm following the 2008 economic recession (McManus et al., 2019). Primary care is a key setting for assessing and managing self-harm, since many people who self-harm do not present to mental health services (Geulayov et al., 2016). General practitioners (GPs) are at the frontline of healthcare, which provides them with unique opportunities to identify and intervene in self-harm in a less stigmatising environment than secondary care or emergency services (Centre for Mental Health, 2019). However, self-harm often occurs in the context of complex mental health issues such as adverse childhood experiences (Fliege et al., 2009), trauma (Barnicot & Crawford, 2018) and personality disorders (Witt et al., 2019); such predictors of self-harm present considerable challenges for GPs meaning self-harm behaviours are rarely addressed in isolation from their underlying issues (Mughal et al., 2020).

While traditionally GPs have been perceived as gatekeepers to specialist services (Saini et al., 2016), they are under considerable pressure to manage self-harm within primary care and advocate for patients to pursue self-help (Bailey et al., 2017; Mughal et al., 2020). Although data suggest the incidence of primary care-recorded self-harm fell during the initial wave of COVID-19 in the UK (Carr et al., 2021; Kapur et al., 2021), there are concerns that services will face an increase in demand for mental health-related concerns after further periods of national lockdown (Mughal, Hossain, et al., 2021; Williams et al., 2020).

The NICE guidelines for the management of self-harm (National Institute for Health and Care Excellence, 2004, 2011) contain recommendations about treatment and referral options to support healthcare professionals to provide the best care for patients. However, a survey of 200 GPs found 45% reported never using NICE guidelines for self-harm, instead preferring to rely on intuition when encountering a patient who has self-harmed; of the GPs that were aware of the guidelines, 38% perceived them to be useful (Cello Health PLC, 2012). A recent representative survey of 67 GPs found only 36% ($n = 24$) were knowledgeable about the self-harm guidelines, and implemented the guidance with just 62% of the patients they encountered that had self-harmed or were at risk of repeat self-harm (Leather et al., 2020). GPs have long cited difficulties when attempting to arrange referrals in accordance with guidelines (Prasad et al., 1999). More recent studies have reported that GPs feel alienated from secondary services, which can be challenging to reach (Wand et al., 2018). Often a GP's ability to follow the recommendations made for them in the guidance is hampered by barriers inherent to general practice, such as time constraints, appointment availability and a systemic lack of access to secondary mental health teams (Centre for Mental Health, 2019; Mughal et al., 2020). GPs experience training about mental health which includes awareness of evidence-based guidelines (Royal College of General Practitioners, 2019); however, acquiring knowledge about self-harm and the self-harm guidelines is not a mandatory part of core GP training. Systematic review evidence suggests that prior clinical experiences, including the uptake of further training, also influence GPs' use of guidelines (Zwolsman et al., 2012); trainee GPs encounter more clinical uncertainty (Chatterjee et al., 2017; Welink et al., 2020) and consult guidelines more readily than experienced GPs who are confident making decisions based upon their expertise

(Francke et al., 2008; Harris et al., 2014; Patel et al., 2001; Van Dijk et al., 2010). There is a mounting patient safety rationale to ensure evidence-based guidelines for self-harm are implemented (Carr et al., 2016).

Although GPs are used to managing general mental health issues as part of their role (Saini et al., 2010), the quality of this management varies (Gask et al., 2008; Meneer et al., 2014). Detection of common mental health conditions is low in general practice due to missed opportunities for screening (Mitchell et al., 2009). Treatments tend to be focused towards pharmacological options, which are not always provided in accordance with national guidance (Tobin et al., 2020; Toner et al., 2010), and communication difficulties can deter patients from seeking further help or complying with their treatments (Ford et al., 2019; Salmon et al., 2004). Many GPs feel ill-equipped to handle self-harm and prevent potential suicide attempts among their patients (Chandler et al., 2016). Lack of confidence can be exacerbated by the additional difficulties that can accompany patients who self-harm, such as complex mental health history (Fliege et al., 2009; Witt et al., 2019), non-attendance (Neeleman et al., 2009; Williams et al., 2020), and frequent, lengthy consultations (Bailey et al., 2019). Australian GPs described feeling impotent and hopeless about managing the complex underlying factors contributing to self-harm in elderly patients (Wand et al., 2018). Similarly, a survey of 28 GPs in the UK reported that they felt under-skilled or lacked training to talk about self-harm, resulting in them missing opportunities to identify self-harm in young people (Fox et al., 2015). A further study found GPs also require confidence and environmental enablers such as extended appointment times to be able to broach the topic of self-harm (Bailey et al., 2017). Beyond skills and confidence, emotional factors such as empathy have also been found to mediate the association between perceived knowledge and attitudes about self-harm (Moriarty et al., 2020). While these studies have identified salient barriers that inhibit or prevent guideline implementation, they lack a strong theoretical basis; as a result, they are unlikely to have captured a comprehensive range of drivers. Since guideline implementation is considered a form of behaviour change (Heslehurst et al., 2014) implementation strategies require an in-depth understanding of the complex determinants of healthcare professional behaviour, informed by behaviour change theory, to identify causal processes and relevant behaviour change techniques (BCTs) (Michie et al., 2005).

The Theoretical Domains Framework (TDF) integrates numerous theories of behaviour change into a single, comprehensive framework to encapsulate cognitive, affective, social, and environmental influences on professional practice (Atkins et al., 2017). It was designed and validated for use in implementation research to increase the accessibility and utility of psychological theory for understanding behaviour change and intervention design (Cane et al., 2012; Michie et al., 2005). An expert consensus group synthesised constructs from existing behaviour change theories relevant to healthcare professional behaviours into 14 domains. These domains expand upon the components of the capabilities (C), opportunities (O), and motivations (M) model of behaviour change (B; COM-B) (Michie et al., 2011), a model comprising six components that drive behaviour: physical capability (e.g., skills), psychological capability (e.g., knowledge), physical opportunity (e.g., time), social opportunity (e.g., social cues), automatic motivation (e.g., emotional reactions) and reflective motivation (e.g., intentions) (Michie et al., 2014). For example, the COM-B component ‘psychological capability’ maps to the ‘knowledge’, ‘skills’, ‘memory attention and decision processes’ and ‘behavioural regulation’ domains of the TDF, which demonstrates the finer grain of detail the TDF offers about behavioural drivers (Cane et al., 2012). In summary, the TDF and COM-B offer a systematic approach to identify barriers and enablers of evidence-based practice, which allows for a theory-based development of interventions by selecting appropriate BCTs, intervention functions, and policy categories that correspond to each domain (Cane et al., 2015; Michie et al., 2014).

Interventions are required to empower GPs to assess and manage self-harm appropriately and feasibly, to increase implementation of national guidelines and address the gaps in self-harm prevention accentuated by the COVID-19 pandemic (Mughal, House, et al., 2021). Although a number of studies have identified several barriers and enablers to effective self-harm practice, there has yet to be a theoretically-grounded, comprehensive investigation into drivers of national guideline implementation for self-harm among GPs. Our study addresses this gap for the first time by using the TDF as an analytical framework to identify salient drivers, and examine how these drivers could be used to inform the development of an intervention to support self-harm guideline implementation in primary care (Atkins et al., 2017; Cane et al., 2012). The TDF has been used elsewhere to develop

interventions for GPs' clinical practice, including reducing imaging for low back pain (Jenkins et al., 2018) and improving medicine management for people with dementia (Barry et al., 2020); the COM-B has been used to capture the barriers and enablers to the implementation of clinical guidelines (e.g., Bailey et al., 2019; Fox et al., 2015). This suggests the TDF is an appropriate framework with which to explore this area of professional practice. The purpose of the present study was to: (1) examine the barriers and enablers to GP's use of, and adherence to, the NICE guidelines for self-harm, and (2) recommend potential intervention strategies to improve implementation of the NICE guidelines in primary care.

Methods

Philosophical stance

The research was conducted under a pragmatic paradigm; an action-focused perspective that aims to interpret knowledge in a manner that produces functional consequences (Cornish & Gillespie, 2009). Therefore, the ontological stance of this research is that reality and knowledge are socially constructed and encountered through interpreting human experience (Kaushik & Walsh, 2019). Our rationale for this approach is to translate knowledge about healthcare professional behaviour into intervention targets.

Participants

Twenty-one GPs working in the UK were purposively invited to take part in an interview study. Participants were previously recruited through a survey panel company (YouGov) to take part in a cross-sectional survey examining implementation of the NICE guidelines for self-harm among a large, representative sample of UK healthcare professionals (Leather et al., 2020). 61 GPs from that sample who had heard of the NICE guidelines for self-harm were invited to participate in follow-up interviews, of which 21 agreed to take part. A sample quota of 22 was set, but data collection ceased when the research team agreed that no new themes were emerging from the data suggesting saturation had been reached (Guest et al., 2006). No novel data were generated from the final few interviews, which suggests data saturation was achieved

Design

General practitioners working in the UK were interviewed by telephone using a semi-structured topic guide. The guide (*Appendix G*) was adapted from an existing schedule (Keyworth et al., 2019) and was based on the COM-B (Michie et al., 2011). Using the COM-B as a basis for the interview questions allowed us to: (a) explore the barriers and enablers to implementing the NICE guidelines for self-harm, (b) use the TDF as an analytical framework to categorise themes generated from the data, and (c) link the components of the COM-B model to the TDF framework to specify the barriers and enablers to implementation of the NICE guidelines for self-harm in general practice.

The Behaviour Change Wheel (Michie et al., 2014) was used to interpret the theoretical domains and identify functions and BCTs to illustrate how a behaviour change intervention could target each domain (Cane et al., 2015). The Behaviour Change Wheel is an amalgamation of nineteen frameworks of behaviour change interventions, and uses the COM-B as its central hub. It contains nine categories of intervention functions to address deficiencies in capabilities, opportunities or motivations (e.g., Enablement), and seven policy categories that could enable those interventions (e.g., Legislation). We provide examples of operationalised BCTs and intervention functions to demonstrate how they could be used to improve GPs' implementation of the NICE guidelines for self-harm.

Procedure

A university ethics committee granted ethical approval in February 2019 (Ref: 2019-5456-9504). A topic guide and accompanying information sheet (*Appendix F*) were developed for the panel company's interviewers to refer to. The interviews were conducted by two members of the panel company (one male), who were trained in qualitative interviewing. No prior relationship was established between the participants and interviewers. Utilising interviewers external to the research team may reduce the risk of researcher bias in data collection (Crilly et al., 2020; Jorgenson et al., 2012). The interviewers were instructed to: (a) use open-ended questions to facilitate exploration of barriers and enablers of guideline implementation; (b) use caution when asking about current practice to minimise social desirability or professional identity bias, and (c) ask for specific examples of

current practice where they encountered a patient who had self-harmed (Michie et al., 2014).

After completion of an online survey (Leather et al., 2020) participants were invited to take part in the interview study by the panel company, and were incentivised with a points-based reward system (YouGov, 2018). Interviews were audio recorded and transcribed verbatim, then anonymised and transferred to the research team for analysis. Informed consent was obtained before each interview. In accordance with YouGov's GDPR regulations, no personally identifiable participant data was shared with the research team. Data collection took place between April 2019 and May 2019.

Analysis

A combination of content analysis and framework analysis was used to analyse the data. Microsoft Excel was used to develop the coding framework. Two members of the research team (JZL and CK) analysed half of the interviews each. Both parties checked each other's coding during ongoing data analysis meetings, and unanimous agreement was reached for codes assigned to the data. JZL then matched data to the domains, and CK reviewed matching for the first 25% of the interviews assigned to the framework. Good agreement (> 60%; e.g.: Mitchell et al., 2009) was achieved, and remaining discrepancies were resolved through discussion to ensure an appropriate domain was agreed upon. This ensured the coding and mapping process was consistent across coders.

Two levels of coding were used. Deductive (first level) coding was used initially to generate the coding framework. Instances of the TDF domains in the data were identified and categorised using directed content analysis, by recording any occurrences relating to TDF domains in the transcripts (Hsieh & Shannon, 2005; Ritchie & Spencer, 1994). A framework approach (Gale et al., 2013) was used to map the data onto relevant domains of the TDF. This allowed the researchers to identify predetermined and emergent issues in the data, and use the TDF as an explanatory framework. Occurrences of COM-B components were coded and mapped directly on to the relevant TDF domains (as specified in Keyworth et al., 2019). Salient domains were selected based on two criteria, which have been used in previous research (Gould et al., 2018; Keyworth et al., 2019): (1) domains mentioned

by more than 60% of participants, and (2) strong importance expressed spontaneously by participants. Key domains met both criteria. Inductive (second level) coding was done by generating explanatory themes for the key theoretical domains identified in the first level coding (Atkins et al., 2017). Finally, relevant BCTs were mapped to each TDF domain to illustrate how the findings could be used to inform intervention design (Cane et al., 2015).

Results

Participants were UK general practitioners working in NHS GP surgeries. Demographics are presented in Table 6.1. Length of interviews ranged from 18-65 min (mean length 29 min). Results are presented in terms of theoretical domains and explanatory themes. There were no substantive differences in interview responses by gender, or age. A diagram illustrates key findings in Figure 6.1, and a summary table is presented in Table 6.2.

Figure 6.1 demonstrates considerable convergence between explanatory themes; three groups were perceived to consist of both enablers and barriers, related to information and skill needs for challenging consultations, guideline engagement, and clinical uncertainty surrounding diagnosis and long-term care for self-harm. Despite this overlap, the specific concepts within each theme are domain-specific, and were coded as either an enabler or barrier depending on the GPs' descriptions.

Five theoretical domains emerged that explained the barriers and enablers to implementing the NICE guidelines for self-harm: *knowledge* (reported by 62% of GPs); *cognitive and interpersonal skills* (reported by 86% of GPs); *memory, attention and decision processes* (reported by 67% of GPs); *environmental context and resources* (reported by 100% of GPs); and *beliefs about capabilities* (reported by 67% of GPs). Explanatory quotes with participant ID are displayed in parentheses.

Table 6.1: Participant demographics (n = 21)

Variables	<i>N</i>	(%)
Gender		
Male	3	(14.29)
Female	16	(76.19)
Did not state	2	(9.52)
Age		
25-34	11	(52.38)
35-44	4	(19.05)
45-54	1	(4.76)
55-64	1	(4.76)
Did not state	4	(19.05)
Years in profession		
Still qualifying/first year	6	(28.57)
1-3 years	3	(14.29)
4-6 years	7	(33.33)
7-10 years	4	(19.05)
Over 20 years	1	(4.76)
GP role		
Trainee	6	(28.57)
Locum	7	(33.33)
Salaried	5	(23.81)
Partner	3	(14.29)

Figure 6.1: Barriers and enablers to implementing the NICE guidelines for self-harm

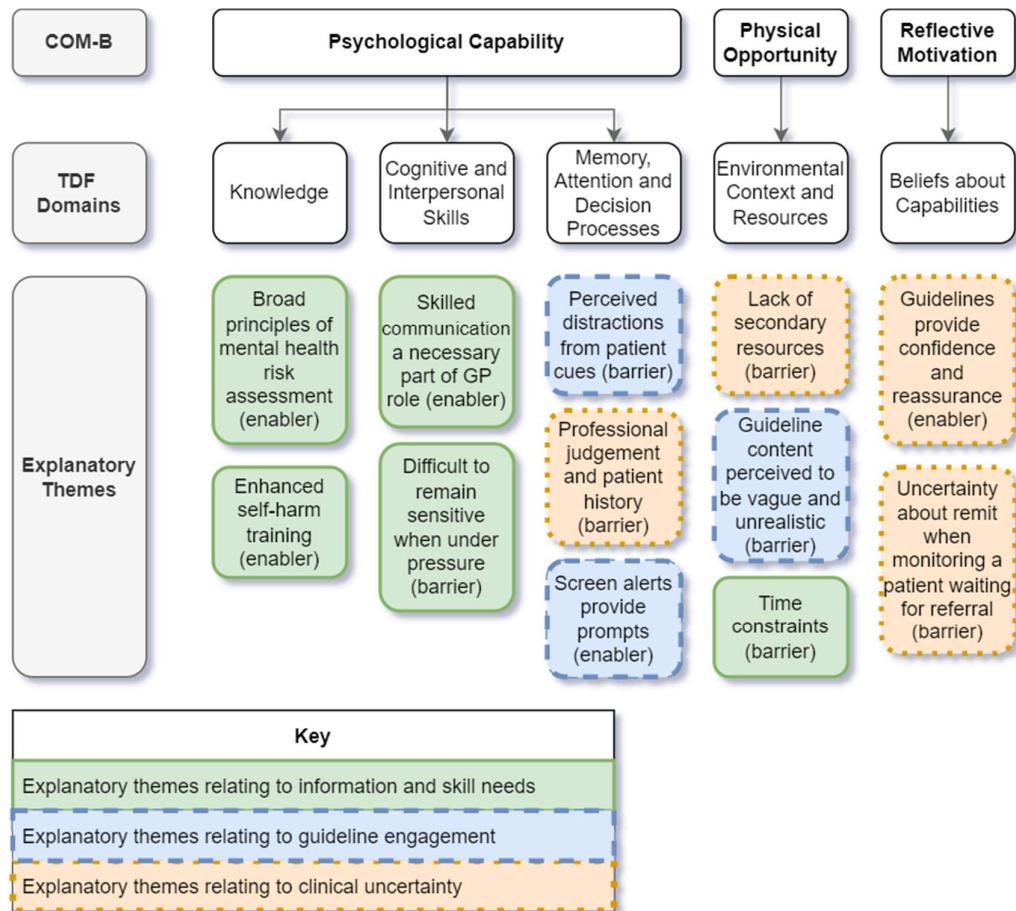


Table 6.2: Summary of key findings

COM domain	TDF domain	Description of domain	Exemplar quotes	Intervention function	Individual BCTs	Exemplar interventions
Psychological capability	Knowledge	GP mental health training focuses broadly on risk assessment. Further self-harm training is beneficial.	“Case-based training or even speaking to the patient who’s self-harmed in the past and finding out, kind of, what happened to them and what doctors did to improve. But it would be great if there [was a]... set protocol on what to look out for, what the red flags were and different steps” (Trainee GP 11)	<ul style="list-style-type: none"> • Education 	<ul style="list-style-type: none"> • Information about antecedents • Prompts/cues • Information about health consequences 	Patient-led information about risk cues for self-harm, to prompt GPs to assess risk of self-harm or suicide using specific questions (IF: Education; BCT: Prompts/cues).
	Cognitive and interpersonal skills	Communication skills a necessary part of GP’s role to gather information and make decisions. Concerns about managing distressed patients.	“You have your standard questions that you know you want to ask, and you work those into the consultation, but you do that with a natural flow... If you’re feeling low in yourself, truly low, the last thing that you want to do... is go through a prescriptive questionnaire and act like you’re speaking to somebody in a call centre.” (Trainee GP 20)	<ul style="list-style-type: none"> • Training 	<ul style="list-style-type: none"> • Instruction on how to perform a behaviour • Behavioural rehearsal/practice • Habit formation • Self-monitoring outcomes of behaviour 	Prompt GPs to practice de-escalating a distressed consultation through role-play exercises with colleagues (IF: Training; BCT: Behavioural rehearsal/practice).
	Memory, attention and	Strictly following guidance can distract attention from the	“When you’re doing risk assessments... just those few seconds away where you’re looking at the computer or	<ul style="list-style-type: none"> • Training • Environmental restructuring 	<ul style="list-style-type: none"> • Self-monitoring outcomes of behaviour 	Advise GPs to record the outcomes of consultations involving self-harm, to

	decision processes	patient; gut feeling can supersede guidelines. Screen alerts may prompt engagement with guidelines.	typing, you miss moments with the patient where they might open up or you just miss the odd little slip in their body language that might help you.” (Locum GP 6)	<ul style="list-style-type: none"> • Enablement 	<ul style="list-style-type: none"> • Behavioural experiments • Action planning • Prompts/cues 	compare actions taken, or risk assessments made, with what is recommended in the guidelines (IF: Training; BCT: Self-monitoring outcomes of behaviour).
Physical opportunity	Environmental context and resources	Guidelines are perceived to be inaccessible, and do not account for restricted time and lack of secondary resources available.	“There’s so much that we can do, but often we need secondary care to help, or, you know, other people to be involved, because, at the end of the day, we see a patient for 10 or 15 minutes and then they’re gone and they’re having to wait for a referral or other services” (Salaried GP 1)	<ul style="list-style-type: none"> • Environmental restructuring • Enablement 	<ul style="list-style-type: none"> • Restructuring the physical environment • Restructuring the social environment • Action planning 	Prompt GPs to plan how they will respond to patients who are below the threshold for immediate suicide risk when referrals are unavailable (IF: Enablement; BCT: Action planning).
Reflective motivation	Beliefs about capabilities	Guidelines provide reassurance about GP’s role in managing self-harm. Challenging to monitor patients waiting for referrals.	“I don’t do things that any other GP doesn’t do, yes? What I’m describing to you is best practice and there will be days I can’t meet best practice but I will at least meet safe, good enough, effective practice, yes?” (Salaried GP 12)	<ul style="list-style-type: none"> • Education • Persuasion • Enablement 	<ul style="list-style-type: none"> • Verbal persuasion about capability • Focus on past success • Action planning 	Advise GPs to describe occasions where they implemented the national guidelines with a patient to reassure them about their judgement (IF: Enablement; BCT: Focus on past success).

Note: No BCTs are associated with ‘memory, attention, and decision processes’, so BCTs were associated with the intervention functions.

IF = Intervention Function; BCT = Behaviour change technique.

Knowledge

Broad principles of mental health risk assessment (enabler).

Twelve participants reported being trained as junior doctors to conduct general mental health risk assessments in line with NICE guidance, which included being capable of identifying self-harm as a risk factor for suicide. They utilise these same principles of risk assessment with all mental health presentations, including those that involve self-harm. This feature of training was reported across current trainees and longer-practising locum and salaried GPs.

Within GP training, having that formal bar of, 'This is what you do within a self-harm/suicide risk/mental health consultation,' is useful to have... So, not everybody will practice the way that I do, that was just the way that I was trained and probably the time that I was trained is always think of what the red flags are, find out those at the consultation. (Trainee GP 20)

Enhanced self-harm training (enabler).

Seven participants described their knowledge about self-harm as poor following GP training, which led them to seek out more training after qualifying. Others mentioned having greater capacity to respond to self-harm because of rotations in psychiatry or emergency services as a trainee. Participants highlighted the value of learning from case studies and patient-led training to inform GPs of risk cues and how to ask salient questions. This manner of learning was considered superior to lectures or online training modules, since it directly enhances GPs' capabilities by defining prompts and cues (BCTTv1 7.1) in an applied manner. This enabler suggests the existing knowledge about self-harm among trainee GPs may require improvement through Education interventions.

I've done face-to-face training within the last couple of years... that was actually led by a survivor that was available through the local NHS health department... If you are in healthcare, every single member should have access to that type of training, because if you do not pick up the cue, you do not recognise that there is even a potential for risk and that is when people fall through the net. (Salaried GP 12)

Cognitive and interpersonal skills

Skilled communication a necessary part of GP role (enabler).

Communication skills were described by 18 participants as an integral part of a GP's role, and necessary to gather information about a patient quickly and

sensitively. GPs draw on these skills when assessing risk following self-harm by looking and listening for risk cues, and by reassuring patients that self-harm is a common feature among people who experience low mood or depression. Effective communication strategies were developed through a combination of training and face-to-face experience; there was a pervasive perception that some aspects of communication (e.g., question wording) could be taught formally through Training interventions, but personality and experiential learning in the consulting room were overriding factors to assessment styles.

I think that's completely key when you're doing work on mental health problems, because they may well feel ashamed, they might well feel really uncomfortable about what's going on, they might not understand it themselves, they might not be able to put it into words clearly... So you have to be able to kind of listen to whatever it is that they're saying, and then try and help them to give you enough information for you to be able to support them and find the things that are going to help them. (Trainee GP 5)

Difficult to remain sensitive when under pressure (barrier).

Participants described complications conducting risk assessments with distressed patients, especially within the context of a standard ten-minute appointment. GPs sometimes have to overcome patients' reluctance to discuss self-harm, and reported difficulties making patients feel comfortable. To navigate this barrier, GPs often encourage patients to return for multiple appointments to build a rapport over time and make better judgements about risk.

I think a lot of patients would struggle to open up, and particularly with the time management I think some doctors would be trying to hurry the patient along, and I think strategies to deal with patients compassionately but efficiently would be helpful, because we need to get a certain amount of information out of patients in order to do these risk assessments and that can be quite difficult to do sensitively in the time that we're allowed. (Locum GP 16)

Memory, attention and decision processes

Perceived distractions from patient cues (barrier).

Participants were reluctant to refer to self-harm guidance during consultations in case they missed an important cue from the patient, or disrupted the process of rapport building. GPs tend to utilise the flow of conversation to naturally gather information instead of asking risk assessment questions by rote. There were

concerns among participants that they would be required to go through a set of ‘tick-box’ questions with patients to accurately implement the NICE guidelines.

Part of me feels like you could lose a little bit of patient, you know, that empathy... Yes, to say ‘Right, now, here’s another form and I’d like to ask you these and let’s tick the boxes,’ and you can sometimes lose the connection you’ve got with the patient by doing that... Sometimes just a free-flowing conversation you can get more information maybe, if you’re asking the right questions. (Salaried GP 1)

Professional judgement and patient history (barrier).

Previous experience and ‘gut feelings’ about risk took precedent in participants’ decision-making; as a result, GPs did not feel the need to check national guidance to inform their consultations. GPs tended to trust that their professional judgement was consistent with the expectations of the NICE guidelines. Six participants reflected on whether their practice was in line with the guidance, and three mentioned concerns that deviating from them could result in punishment or litigation if a patient subsequently died by suicide. However, participants emphasised that urgent self-harm presentations are rare; more often than not, they made decisions about longer-term care based on underlying mental health issues. As a result, they did not necessarily take the time to focus on self-harm behaviour in isolation because establishing a patients’ risk of suicide eclipses the need to establish risk of non-suicidal self-harm.

But then that’s also the downside of then you’re taking-, a lot has to be said for, like, gut-feeling in these decisions. A lot goes for, as a GP, your familiarity and your knowledge of the patient. Not all of your patients, but a lot of your patients that you see regularly, you know them on a different level to other services because you see them more regularly. (Trainee GP 4)

Screen alerts provide prompts (enabler).

Internal communication platforms such as TeamNet are commonplace in practices, and are used by managers to disseminate information to their staff quickly. Participants who received online alerts from such systems whenever new guidance is released or old guidelines are updated found this to be an efficient way to stay updated about guideline content (BCTTv1 7.1: Prompts/cues). However, older guidance that has not changed, including the self-harm guidance at the time of writing, is not routinely circulated.

I'm kind of registered with the NICE guidelines online, so I get an alert when there's a new guideline or kind of an updated guideline, so I'll have a look if I get one of those alerts. (Locum GP 9)

Environmental context and resources

Lack of secondary resources (barrier).

Participants provided several examples of frustrating circumstances when trying to refer self-harm patients to a specialist mental health service, and reported discrepancies between the guidelines' appropriate reasons to refer and secondary services' criteria for accepting a patient. Crisis teams and secondary mental health services were described as being overloaded and difficult to reach, so GPs were often unable to make referrals commensurate with the expectations of national guidelines unless a patient was at immediate risk of suicide. GPs also noted that they frequently had no local third-sector alternatives, leaving patients below the threshold for immediate suicide risk needing to be managed in their care.

I feel like we go around in circles a lot. 'This patient is not going to kill themselves, discharge back to the GP,' or, 'Have some diazepam, discharge back to the GP,' which then creates another issue... Sometimes they can be brilliant, and sometimes they can get other services involved, or refer to self-harm services that we didn't even realise were available, or organise counselling and things like that. Sometimes, it's just a constant circle of feeling like we're getting nowhere. (Trainee GP 4)

Guideline content perceived to be vague and unrealistic (barrier).

The presentation of the guidelines was identified as a barrier; some found the appearance and wording of the NICE guidance too long-winded and off-putting. Participants criticised the layout of the NICE guidance website as being difficult to navigate, which made them unsuitable for quick reference when in consultation with a patient. Additionally, some participants found the guidance for GPs was vague, with an unrealistic reliance on the availability of secondary services.

The trouble with these guidelines is that if it doesn't give you good and clear information about what kind of things you can do for someone, you end up with a lot of words that often don't mean anything and people are lot less likely to look at them. I'm certainly not going to sit and read absolutely all of these statements because I don't have time and I don't have the inclination to do it. I think you need more bullet points and easier to understand and follow, otherwise people aren't going to read them. (Partner GP 2)

Time constraints (barrier).

A fundamental barrier in general practice is appointment length. Participants felt it unrealistic to expect a complete risk and needs assessment within ten minutes, and mentioned that double- or triple- length mental health appointments were common. Support systems exist in some practices to facilitate this by shuffling appointments between other practice staff, providing GPs with more time to assess their patient (BCTTv1 12.1: Restructuring the physical environment). However, extended appointments come at the cost of other patients' and colleague workloads; additionally, such systems are ultimately unfeasible to enact in solo or remote practices.

You're supposed to do all this, sort of, detailed assessment with the patient in ten minutes. It doesn't happen. If you have a good-going depression case with lots of risk factors, you're there 20-30 minutes with the patient... You don't always see that extent of patients who need that amount of input every single day. So, if it's happening once or twice a week then, you know, it's doable. Yes, it makes you run a bit late for your other patients, but at least it means, well, you've done the job properly. (Trainee GP 3)

Beliefs about capabilities

Guidelines provide confidence and reassurance (enabler).

Since acute self-harm is a relatively rare occurrence in primary care, the guidelines provide a foundation for a GP's response depending on the nature of the presentation and the perceived urgency to act. Although longer-practising GPs felt more confident relying on their professional judgement, trainees reported referring to the guidelines to reassure both themselves and their patient that they are making evidence-based decisions. Some participants reported relief that the guideline did not contain actions they were not already implementing. While more experienced GPs criticised the guidelines for being too "commonsense-ical" (Locum GP 21), they also believed the guidance was well within the capabilities of any GP.

You've got to be able to give the patient a sense that... you know what you're doing. They've come to see you at their worst moment. You've got to be able to say; look, I can help you, and I can do that if I know that I'm not just drawing on rubbish or not just drawing on my own, sort of, you know, random little memory somewhere. I've got something here that I've got evidence for. (Trainee GP 11)

Uncertainty about remit when monitoring a patient waiting for referral (barrier).

GPs described being the first port of call for many patients who have mental health difficulties, and consider themselves to have a dual role to signpost patients towards appropriate services, in addition to providing validation and a listening ear. However, the time a patient will spend waiting for a referral following self-harm varies, which leaves GPs with an uncertain outlook about how best to manage the patient in the meantime. The guidelines do not currently detail how GPs should monitor patients while they are waiting; some participants argued that as generalists, they are not well placed to care for patients with mental health issues long-term, and it is unfair that they are expected take on the roles of mental health professionals in the absence of specialist resources. GPs mentioned that it is unfeasible in busy practices to create repeat appointments to monitor patients regularly.

I think the main thing that would be useful for GPs is to have some sort of strategy about how to treat these patients before they actually wait for ages to see a psychologist, so I think we're all very aware that referring for counselling is important but that doesn't necessarily help patients because if they're waiting for three months to see someone, by the time they've waited three months to see anyone they've got themselves into a right state. (Salaried GP 8)

Intervention development: Proposed functions and exemplar BCTs

Exemplar interventions, domain descriptions and exemplar quotes are presented in Table 6.2 to address the second aim of this research; intervention functions and BCTs were mapped according to the Behaviour Change Wheel. Five of nine intervention functions (Michie et al., 2011) were linked to five TDF domains: education, training, environmental restructuring, enablement, and persuasion. Eight of sixteen BCT groupings were found to be relevant: feedback and monitoring, shaping knowledge, natural consequences, associations, repetition and substitutions, antecedents, goals and planning, and self-belief. Fourteen unique BCTs were found to be relevant. For example, to target *cognitive and interpersonal skills* interventions might comprise: prompting GPs to practice de-escalating a distressed consultation through role-play exercises with colleagues (intervention function: Training; BCT: Behavioural rehearsal/practice), or by encouraging GPs to regularly check for new or updated NICE guidance online (intervention function: Training; BCT: habit formation).

Discussion

Main findings

This is the first study to use a theoretically grounded framework to identify barriers and enablers that influence GPs' implementation of the NICE guidelines for self-harm. The framework (Atkins et al., 2017) examined how these influences could inform the development of an intervention to support guideline implementation in primary care. This study contributes to existing literature by identifying five distinct TDF domains that illuminate and encapsulate the challenges GPs face to implementing national guidelines for self-harm. Three broad targets for intervention were identified from the explanatory themes: information and skill needs, guideline engagement, and clinical uncertainty. We provide recommendations for relevant intervention functions and BCTs that could be incorporated into quality improvement interventions to empower GPs to implement NICE guidelines when they encounter a patient seeking help for self-harm.

In terms of information and skill needs, existing research corroborates that GPs feel under-skilled to discuss self-harm (Bailey et al., 2017; Fox et al., 2015) (*Environmental context and resources*), and struggle to conduct brief, empathetic consultations when discussing emotional concerns due to the time and temperament needed to de-escalate distress (Parker et al., 2020) (*Cognitive and interpersonal skills*). Numerous studies have identified knowledge gaps among GPs about self-harm (Cello Health PLC, 2012; Mughal et al., 2020), particularly in relation to recognising self-harm as a risk factor for suicide (Fox et al., 2015) (*Knowledge*). The Royal College of General Practitioners' (RCGP) curriculum for GP training recognises self-harm as a 'common and important condition', but the material provided to trainees about self-harm remains limited (Royal College of General Practitioners, 2019). Furthermore, information about self-harm is obscured in the RCGP's Mental Health Toolkit for GPs under 'Suicide and Crisis Care' (Royal College of General Practitioners, 2021). While knowledge and skill gaps could be addressed through enhanced education, GPs emphasised that receiving information about self-harm directly from patient experts by experience provides practical feedback and information about health consequences (Dijk et al., 2020).

GPs rarely spontaneously engaged with guidelines during consultations due to perceptions that they could distract from patient cues (*Memory, attention and decision processes*) (Parker et al., 2020). Environmental pressures such as time constraints and a lack of specialist mental health resources are common obstructions to conducting assessments and arranging referrals (Bailey et al., 2019; Bruco et al., 2018) (*Environmental context and resources*). Additionally, guideline length and complexity can discourage busy GPs from taking the time to read them (Francke et al., 2008). Optimisation of NICE guidelines for quick reference could help to address engagement issues raised by GPs about the readability of the guidance. Electronic prompts were praised as an enabler by GPs, however, research suggests prompts alone do little to improve implementation (Brennan et al., 2018); technological interventions must also consider broader system issues within the dynamic contexts of primary care (Keyworth et al., 2018; Litchfield et al., 2018).

While some GPs felt reassured that the guideline content contained common-sense recommendations within their skillset, particularly in relation to mental health assessments (*Beliefs about capabilities*), others held more sceptical attitudes about whether the guidance was within their remit as generalists; similar criticisms have been made by GPs about the utility and trustworthiness of guideline content (Carlsen et al., 2011; Carlsen & Norheim, 2008). Most notably, GPs reported uncertainty about how best to monitor patients on waiting lists for specialist care, making decisions based on their prior knowledge of the patient and professional judgement. It is common for healthcare professionals to rely on professional judgement over clinical guidelines, due to disagreements with the guideline content and beliefs about patients' needs (Austad et al., 2015; Francke et al., 2008). Therefore, the lack of clarity in the guidelines about what GPs should do in terms of monitoring and follow-up prevents them from engaging with the guidelines, and may risk creating unrealistic expectations about the care non-mental health professionals are able to provide for such complex behaviour.

Automatic motivation and physical capability are notable by their absence from our analysis. Although reinforcement and emotional drivers were reported by nine and four of the participants respectively, they were not mentioned sufficiently to warrant inclusion according to our criteria. Considering the association of automatic motivation with implementation of the NICE guidelines for self-harm (Leather et al.,

2021) and its role in guideline implementation in other areas of practice (Egerton et al., 2018; Kredo et al., 2018), it is surprising that habitual and emotional processes were omitted from most responses. This may be due to an inability to articulate the influence of higher level automatic processes (e.g., habit) on behaviour (Nisbett & Wilson, 1977). Alternatively, it may demonstrate that most GPs have not yet developed a habit of implementing self-harm guidelines; which would provide an opportunity for interventions to replace old habits with guideline consistent behaviours (Cottrell et al., 2016; Egerton et al., 2018). The non-inclusion of physical capability in participants' accounts may reflect the limited role of physical exertion or fine motor skills in general practice compared to other clinical roles (Ierano et al., 2019); or that GPs believe they are capable of the tasks involved in their role (e.g., physical examinations).

Implications for practice, implementation and policy

This study has identified several areas where GPs require support to implement the NICE guidelines for self-harm during routine consultations, in addition to suggestions to address deficiencies in the accessibility of the guidance (summarised in Figure 6.2). First, GPs require enhanced training to remediate knowledge and skill gaps in relation to self-harm risk assessments, particularly during high-pressure consultations. Second, the guidelines need to be optimised for quick reference to support decision-making in a way that maintains the flow of consultations. Lastly, more clarity and detail must be provided in relation to long-term management in primary care, providing it is realistic for busy GPs to implement. The Mental Health Toolkit (Royal College of General Practitioners, 2021) represents an opportunity to deliver information needs about self-harm in a timely and accessible manner. The implementation of NICE guidelines for self-harm could be a candidate area for quality improvement in future iterations of the NHS Quality and Outcomes Framework.

Figure 6.2: Summary of implications for practice, implementation and policy

- Enhance training for GPs to address knowledge and skill gaps in relation to high-pressure consultations involving self-harm
- Optimise the delivery of national guidance for quick-reference to support decision making during the flow of a consultation
- Provide GPs with guidance about caring for patients who self-harm in the longer term, namely during waits for referrals

We have provided recommendations about specific BCTs to utilise in future interventions, which are derived from TDF domains that emerged from participant responses (represented in Table 2). Exemplar interventions from the analysis could include providing information about patterns of risk identifiable in patient notes prior to consultations (Intervention function: Education; BCT: Information about antecedents); developing a short-form version of the guidance for GPs (Intervention function: Environmental restructuring; BCT: Restructuring the physical environment); using implementation intentions to provide GPs with if-then responses to common consultation scenarios (Intervention function: Enablement; BCT: Action planning). Pilot interventions would require feasibility and acceptability testing with involvement from GPs to develop realistic and impactful improvements to guideline implementation.

Strengths and limitations

Utilisation of the TDF and BCT Taxonomy V1 (Michie et al., 2013) has provided a robust foundation for future research and intervention development. The findings represent a synthesis of information corroborating existing findings from disparate studies into a single, comprehensive series of recommendations. A strength of basing the interview schedule on the COM-B instead of the TDF is that participants could naturally report on barriers and enablers, which created opportunities to conceptualise non-TDF drivers (McGowan et al., 2020).

However, there were some limitations. The sampling frame recruited GPs with varying career lengths, however, there was an over-representation of trainee and newly qualified doctors whose perspectives could be limited by their lack of experience (Shiner & Howe, 2015). Additionally, due to the nature of follow-up research we were unable to expand our sampling frame to rectify the gender gap in

this sample compared to General Practice Workforce statistics (NHS Digital, 2022); including the experiences of more male GPs than were included in the present study may have afforded prominence to different themes or domains in the data. Explicitly deriving interview questions from TDF constructs may have prompted more focused discussion from participants about specific barriers and enablers. On the other hand, the spontaneous emergence of TDF-congruent codes and themes supports the validity of Behaviour Change Wheel constructs mapping onto the TDF (Atkins et al., 2017). The criteria used to select relevant domains may have resulted in important domains being overlooked, either because they were mentioned infrequently or because they were not emphasised as important by participants. Alternative analytical approaches such as grounded theory may reveal additional barriers and enablers not sufficiently explained by the TDF framework (Mosavianpour et al., 2016).

Conclusion

GPs have a multifaceted role in assessing and managing self-harm and require a range of support mechanisms to implement national guidelines for self-harm. Utilising the Behaviour Change Wheel has (1) identified barriers and enablers that GPs face to implementing the NICE guidelines for self-harm, and (2) provided exemplar intervention strategies derived from TDF domains and relevant BCTs. The five domains highlighted in this study could be targeted individually or together in complex quality improvement interventions. Given the volume of self-harm presentations in primary care and prevalence of self-harm in the UK, these findings provide timely recommendations to support GPs to assess and manage self-harm.

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Chapter 7 Implementation of National Guidance for Self-harm among General Practice Nurses: A Qualitative Exploration using the Theoretical Domains Framework (Paper 4)

This article is in preparation for submission to BMC Nursing.

Note. As this paper is in preparation for publication, the formatting and layout are consistent with the requirements for BMC Nursing. For this chapter, the references will follow APA style, but will be placed at the end of the chapter rather than at the end of the thesis.

Abstract

Background: Patients who self-harm may consult with primary care nurses, who have a safeguarding responsibility to recognise and respond to self-harm. However, the responses of allied health staff to self-harm are poorly understood; as such, opportunities to identify self-harm and signpost towards treatment may be missed. It is unclear how to support nursing staff to follow national guidelines, which are also an expectation of nurse training competencies for self-harm. **Aims:** Among primary care nursing staff to: (1) Examine the barriers and enablers to nurse's use of, and adherence to, national guidance for self-harm, and (2) Recommend potential intervention strategies to improve implementation of the NICE guidelines. **Methods:** Twelve semi-structured telephone interviews around the capabilities, opportunities and motivations model of behaviour change (COM-B), were conducted with primary care nurses. The Theoretical Domains Framework was used as an analytical framework, while the Behaviour Change Wheel was used to identify exemplar behaviour change techniques and intervention functions. **Results:** Nursing staff wanted to learn more about risk factors (knowledge), and strategies to initiate sensitive conversations about self-harm (cognitive and interpersonal skills) to support their professional competencies (professional role and identity). Prompts are needed to support recall of the guidance and support a patient centred approach to self-harm within practices (memory, attention, and decision making). GPs, and other practice nurses offer guidance and support (social influences), which helps nurses to navigate referrals and restricted appointment lengths (environmental context and influences). **Conclusions:** Two converging sets of themes relating to information delivery and resource availability need to be targeted. Nine groups of behaviour change techniques, and five intervention functions offer candidate solutions for future intervention design. Key targets for change include practical training to redress conversational skill gaps about self-harm, the integration of national guidance with local resources and practice-level protocols to support decision-making, and creating opportunities for team-based mentoring.

Keywords: self-harm, general practice, practice nurse, primary care, evidence-based guidelines

Background

General practices represent a first point of contact for many people who self-harm; most often to seek ongoing care for self-harm as a consequence of mental health difficulties, but patients also present to primary care to following incident episodes of self-harm (Carr et al., 2016; Mughal et al., 2020). Rates of self-harm recorded in primary care have risen over the past decade, particularly in young people and older adults (Marchant et al., 2020; Morgan et al., 2018). Despite being a robust risk factor for subsequent death by suicide (Cavanagh et al., 2003; Hawton et al., 2012), self-harm remains an overlooked and often misunderstood behaviour outside of specialist mental healthcare settings (Ford et al., 2021; Sølvhøj et al., 2021). To address this, a key component of the UK government's suicide prevention strategy has been to call for appropriate suicide and self-harm training for all staff in primary care settings, including GPs (HM Government, 2012, 2019). The role of General Practitioners (GPs) in identifying and managing patients has been a priority for self-harm research in primary care (Chandler et al., 2020; Fox et al., 2015; Mughal et al., 2020), but the contributions of other primary care staff has received less focus.

Scant information is available about what typically happens when a patient attends general practice to seek care relating to self-harm from a nurse, or how frequently such occurrences take place. A study of young people's medical records found that patients tend to seek different healthcare professionals depending on the nature of their self-harm; patients that self-injure prefer to consult with a practice nurse, while people that have self-poisoned make appointments directly with their GP (Bailey et al., 2019). While nursing staff do not possess overall responsibility for the care and support of individual patients, they are practice teams members with potential opportunities to identify and signpost patients who may be at risk of further self-harm, in addition to providing ongoing care for patients whose self-harm has already been recorded. Therefore, it is paramount that the experiences of these staff members are understood, to ensure their practice is congruent with the expectations of national guidance and nursing competencies.

The National Institute for Health and Care Excellence's (NICE) guidance for self-harm is currently at the consultation stage (NICE, 2022), but currently states that

all clinical and non-clinical employees working for a primary care service should be provided with appropriate training to understand and care for people that have self-harmed (NICE, 2004, 2011, 2013). The Nursing and Midwifery Council (NMC) recently updated their standards of proficiency for registered nurses to include competencies related to suicide prevention (NMC, 2018a); specifically the knowledge to recognise and assess self-harm risk, and the skills to initiate interventions for people who self-harm. In addition to providing direct care, nursing staff may encounter patients that present following an episode of self-harm, who need to be escalated for an initial assessment by a GP (NMC, 2018b). However, healthcare professionals that qualified before the new curricula were published in 2018 may not be aware or have achieved these competencies, and there are concerns that existing training programmes do not adhere to national self-harm and suicide prevention competency frameworks (Barker et al., 2021; Health Education England, 2018). Such gaps in education create barriers to implementing national self-harm guidelines, since staff who are poorly informed about self-harm are less likely to identify patients who are at risk (Kilty et al., 2021; Rayner et al., 2019).

Beyond skills and knowledge, a lack of training about self-harm negatively impacts nurses' confidence to address self-harm routinely, due to fears that confronting sensitive mental health topics incorrectly would offend or distress their patients (Bailey et al., 2019; Kilty et al., 2021). A recent nationally representative survey of healthcare professionals found that under one third of respondents (30.6%, $n = 312$) had taken part in any training about self-harm (Leather et al., 2020). Practice nurses followed the guidance with 33% of patients perceived to be at risk of further self-harm, compared to 61% of GPs. A previous survey found that asking about self-harm was not routine practice in primary care, suggesting that opportunities to intervene may be missed by healthcare professionals because of an absence of habits (Taliaferro et al., 2013). Environmental barriers to guideline-adherent practice in primary care include a high volume of patients, short appointment times, and difficulties making referrals to secondary mental health services (Dillon et al., 2020; Mughal et al., 2020; Nicholas et al., 2018). Since these findings are chiefly derived from GP samples, there remains a need to establish what unique barriers nursing staff face within this healthcare setting, using comprehensive theoretically-grounded frameworks. To change healthcare professionals' behaviour,

implementation strategies require a foundational understanding of the multifaceted determinants of guideline-congruent practice, as informed by behaviour change theory, to identify drivers and appropriate strategies for change (Heslehurst et al., 2014; Michie et al., 2005).

The capabilities (C), opportunities (O), and motivations (M) model of behaviour change (B; COM-B) (Michie et al., 2011) provides an accessible approach to conceptualise the environmental, social, affective, and cognitive influences on behaviour. The COM-B stipulates that behavioural drivers can be categorised into its six components, which were distilled from numerous theories of behaviour change (Michie et al., 2014). However, the breadth of these components limits its utility for intervention design because it does not provide an adequate level of detail about the determinants of behaviour. An extension of this model known as the Theoretical Domains Framework (TDF) (Atkins et al., 2017) offers a solution. The TDF was purposely designed for implementation research by elaborating on the components of the COM-B model with a framework comprising 14 domains (Cane et al., 2012; Michie et al., 2005). The TDF is part of the Behaviour Change Wheel for intervention development which has the COM-B model at its centre (Michie et al., 2014); as a result the TDF offers a systematic approach to identify corresponding intervention functions, behaviour change techniques, and policy categories to develop theory-based behaviour change interventions (Cane et al., 2015). This approach has been used as a basis for intervention development for practice nurses in relation to cervical screening (McSherry et al., 2012) and consultations for osteoarthritis (Porcheret et al., 2014).

While primary care nurses encounter patients that self-harm in primary care, few implement national guidance for self-harm and opportunities to identify and signpost towards care for patients at risk of further self-harm may be missed. The present study aimed to: (1) examine the barriers and enablers to primary care nursing staff's use of, and adherence to, national guidance for self-harm, and (2) recommend potential intervention strategies to improve implementation of the NICE guidelines and nursing competencies relating to self-harm by primary care nurses.

Methods

Design

Semi-structured telephone interviews were conducted with primary care nurses based in general practice. A topic guide structured around components of the COM-B model (Michie et al., 2011) was produced, which was derived from an existing schedule created for use with healthcare professionals (Keyworth, Epton, Goldthorpe, Calam, & Armitage, 2019) (Appendix G). Structuring interview questions around the COM-B provided: (a) theoretically-grounded questions to explore drivers of guideline implementation, (b) the option to use the TDF as an analytical framework to interpret themes in the data, and (c) the ability to connect components of the COM-B model to the TDF framework to precisely identify barriers and enablers to implementing national guidelines for self-harm. Using open-ended questions structured around COM-B components instead of TDF domains enabled respondents to spontaneously discuss drivers of their own behaviour; this is advantageous because it provides opportunities for participants to describe barriers or enablers that may not be sufficiently captured by the TDF (McGowan et al., 2020).

Participants

A purposive sample of 12 GP practice nurses were recruited to this study. Participants had already taken part in a cross-sectional survey (administered by a survey panel company) examining implementation of the NICE guidelines for self-harm (Leather et al., 2020), and had expressed an interest in taking part in follow-up research. All participants had qualified prior to the addition of the of suicide prevention competencies to the NMC's nursing proficiencies (NMC, 2018a). The final interviews generated no new data, suggesting data saturation had been achieved.

Data collection

Ethical approval was granted in February 2019 by a university ethics committee (Ref: 2019-5456-9504), and data collection took place between April 2019 and May 2019. Two members of the survey panel company (one male, one female) conducted the interviews; external interviewers were utilised to minimise potential response biases arising from the interviewees' professional relationships

(Crilly et al., 2020). Both interviewers were provided with an interview topic guide and summary information sheet about the NICE guidelines for self-harm for reference (Appendix F). The information sheet advised the interviewers to (a) use open-ended questions to allow drivers of guideline implementation to be explored spontaneously; (b) be cautious when asking about current practice to mitigate social desirability or professional identity biases, and (c) ask participants to provide examples of any instances where they encountered patients who had self-harmed (Michie et al., 2014). Invitation emails were distributed following completion of the online survey (Leather et al., 2020); the survey panel company incentivised potential participants with a points-based reward system (YouGov, 2018). The telephone interviews were recorded and transcribed verbatim by the company, then anonymised and delivered to the research team for analysis. Informed consent was obtained before each interview. No personally identifiable participant data was shared with the research team, to adhere to YouGov's GDPR regulations.

Analysis

A framework approach (Gale et al., 2013) was adopted to map the data onto appropriate TDF domains using Microsoft Excel. Interview scripts were analysed by two members of the research team (JZL and CK). The researchers reviewed each other's analysis during ongoing meetings. Unanimous agreement was reached about the codes allocated to the data, suggesting the coding process was consistent between both researchers. To ensure the TDF was an appropriate analytical framework, CK reviewed data from the first 25% of interviews matched to domains by JZL. The researchers agreed about the majority (> 60%; Atkins et al., 2017) of domains assigned to the data, and areas of disagreement were resolved through discussion to reach a consensus about appropriate domains.

Deductive (first level) coding was used to identify, record, and categorise occurrences of TDF domains in the data (i.e.: directed content analysis; Hsieh and Shannon, 2005; Ritchie and Spencer, 1994). Likewise, data relating to COM-B components were coded and assigned to their corresponding TDF domains (as described in Michie et al., 2014). Key domains were selected based on: (1) their prominence in the data (mentioned by >60% of participants) and (2) whether their significance was described spontaneously by participants. These two criteria have

been used in previous research to identify salient domains (e.g.: Gould et al., 2018; Keyworth et al., 2019). Inductive (second level) coding was then undertaken to generate explanatory themes for the key domains (Atkins et al., 2017).

Finally, the Behaviour Change Wheel (Michie et al., 2014) was utilised to interpret the domains and identify functions and behaviour change techniques to illustrate how the findings could be used to inform intervention design (Cane et al., 2015). The Behaviour Change Wheel is an amalgamation of nineteen frameworks of behaviour change interventions, and uses the COM-B as its central hub. It contains nine categories of intervention functions to address deficiencies in capabilities, opportunities or motivations (e.g.: Incentivisation), and seven policy categories that could enable those interventions (e.g.: Fiscal measures, Michie et al., 2014). Exemplar behaviour change techniques (BCTs) and intervention functions have been operationalised to illustrate how they could be used to improve implementation of the NICE guidelines for self-harm.

Results

Participant demographics are detailed in Table 7.1. The sample ($n = 12$) comprised primary care nurses working in GP surgeries. Length of interviews ranged from 18-43 minutes (mean length 33 minutes). Results are presented by theoretical domains and explanatory themes; a summary is presented in Table 7.2, while key findings are illustrated in Figure 7.1.

Table 7.1: Participant demographics (n = 12)

Variables	N	%
Gender		
Female	12	100.00
Age		
35-44	3	25.00
45-54	2	16.67
55-64	6	50.00
Did not state	1	8.33
Ethnicity		
White British	9	75.00
Chinese	1	8.33
Other ethnic group	1	8.33
Did not state	1	8.33
Years in profession		
First year of practice	1	8.33
7-10 years	2	16.67
16-20 years	1	8.33
Over 20 years	8	66.67
Work Setting		
GP practice	12	100.00
Professional Role		
General Practice Nurse	10	83.33
Lead General Practice Nurse	1	8.33
General Nurse Practitioner	1	8.33

Convergence between explanatory themes is depicted in Figure 1 by connecting lines; two groups of themes consisted of both barriers and enablers, and have been labelled as relating to information delivery, or resource availability. The domain of *memory, attention, and decision processes* contained themes relating to both of these labels. Concepts within each theme remain domain-specific in spite of this considerable overlap, and were coded as either an enabler or barrier depending on participants' descriptions.

Six theoretical domains that encapsulated the barriers and enablers to implementing national guidance for self-harm by general practice nurses: *knowledge* ($n = 23$ occurrences; reported by 10 [83%] participants); *cognitive and interpersonal skills* ($n = 21$ occurrences; reported by 9 [75%] participants); *memory, attention and decision processes* ($n = 41$ occurrences; reported by 11 [92%] participants); *environmental context and resources* ($n = 26$ occurrences; reported by 9 [75%] participants); *social influences*; ($n = 28$ occurrences; reported by 11 [92%] participants); and *professional role and identity* ($n = 34$ occurrences; reported by 12 [100%] participants). Explanatory quotes are accompanied by anonymous participant ID in parentheses.

Knowledge

Lack of access to CPD (barrier)

Participants had undertaken no training about self-harm before qualifying for their current roles, and were not “*asked to evidence*” any training about mental health because “*it’s just assumed that [they] already know how to talk to people*” (Nurse Practitioner 9). Difficulties accessing self-harm training included prohibitive cost barriers for practices, and insufficient continuous professional development (CPD) hours.

It isn’t something, and I’ve been nursing for 32 years, that I’ve ever received any training on. In my day, we did six-week psychiatric placements... that is it as far as my mental health education goes. (Practice Nurse 7)

Table 7.2: Summary of key findings

COM domain	TDF domain	Description of domain	Exemplar quotes	Intervention function	Individual BCTs	Exemplar interventions
Psychological Capability	Knowledge	Knowledge gaps were identified pertaining to self-harm risk factors and protocols. Nurses did not perceive a need for in-depth learning about self-harm, instead wanting to improve their awareness of the self-harm guidelines.	“They touch upon things like mental health and our role in searching out signs and things like that but it would, kind of, half a lecture. I don’t think it’s quite focussed on enough.” (Practice Nurse 1)	• Education	<ul style="list-style-type: none"> • Prompts/cues • Information about health consequences • Information about emotional consequences • Information about antecedents 	Education about the positive impacts on health associated with arranging a psychosocial assessment following self-harm (IF: Education; BCT 5.1: Information about health consequences)
	Cognitive and Interpersonal Skills	Nurses were highly skilled at building trust with patients. Practical advice was needed about starting conversations about self-harm in ways that preserve patient trust and rapport.	“I think it’s harder for nurses because we don’t always have the skills because we have more of a broad ranging set of skills.” (Practice Nurse 10)	• Training	<ul style="list-style-type: none"> • Demonstration of the behaviour • Instruction on how to perform a behaviour • Behavioural rehearsal/practice • Feedback on the behaviour 	Training nurses to be able to start conversations about self-harm during appointments when it is safe and appropriate to do so (IF: Training; BCT 4.1: Instruction on how to perform the behaviour)

	Memory, Attention, and Decision Process	Translation of the guideline content into practice- or Trust-level protocols would support decision-making. Brief reminders, akin to annual training packages, would support recall of the guidance.	“There’s so much think about in general practice, and we can’t have the answers to everything, you know, so sometimes it’s good to have pathways or guidance or standards or somewhere where you can look to find some guidance really.” (Practice Nurse 5)	<ul style="list-style-type: none"> • Training • Environmental restructuring • Enablement 	<ul style="list-style-type: none"> • Habit formation • Prompts/cues • Adding objects to the environment • Restructuring the physical environment 	Develop an in-practice protocol for staff to follow when they encounter a patient who has self-harmed or is at risk of self-harm (IF: Environmental restructuring; BCT 12.1: Restructuring the physical environment)
Physical Opportunity	Environmental Context and Resources	Short appointments hampered opportunities to adequately discuss self-harm. Barriers to organising referrals consistent with the guidelines included extensive written communications with secondary mental health services, and unclear waiting times.	“That’s not a ten-minute appointment, so it would take longer. It would put pressure on your other colleagues, who would maybe have to pick up on your other patients, it would make me feel bad because I know that I’ve got patients waiting, but I need to obviously concentrate on the job in hand.” (Practice Nurse 7)	<ul style="list-style-type: none"> • Environmental restructuring • Enablement 	<ul style="list-style-type: none"> • Restructuring the physical environment • Restructuring the social environment • Action planning 	Simplify the paperwork required to organise a mental health referral to reduce the time burden of written referrals. (IF: Environmental restructuring; BCT 12.1: Restructuring the physical environment)
Social Opportunity	Social Influences	Support from colleagues in general practices enabled participants to implement the guidelines. ‘On-call’ systems and designated mental health	“The biggest help is having another person who I can get to come and have a conversation as well. So, being able to whip across the corridor and say to the doctor or the	<ul style="list-style-type: none"> • Environmental restructuring • Modelling • Enablement 	<ul style="list-style-type: none"> • Restructuring the social environment • Demonstration of the behaviour 	Designating a member of staff as the lead for mental health or safeguarding, to be contacted if a patient presents with self-harm or

		staff were sought out during encounters with patients at risk of self-harm. All-staff meetings are opportunities to disseminate updated guidance.	other practice nurse: ‘Will you just come and have a word with this patient as well and see what you think’.” (Practice Nurse 4)		<ul style="list-style-type: none"> • Social support (practical) 	is believed to be at risk of self-harm. (IF: Enablement; BCT 12.2: Restructuring the social environment)
Reflective motivation	Professional/Social Role and Identity	Nurses and healthcare assistants are perceived to be approachable, which creates opportunities to identify and signpost patients who self-harm. While a sense of duty towards patients motivated participants to implement guidelines, some argued that their role restricted the actions they could take beyond signposting.	“I think we need to keep an eye out, sort of, for any evidence or any concerns that we have and I think it’s our responsibility to either, if we feel appropriately trained to do so, or if we feel it appropriate for us to do so, to raise that issue with the patient.” (Practice Nurse 1)	<ul style="list-style-type: none"> • Education • Modelling 	<ul style="list-style-type: none"> • Information about antecedents • Information about others’ approval • Demonstration of the behaviour 	Provide information to nurses about how patients want to talk about self-harm; specifically what patients do and do not find helpful. (IF: Education BCT 6.2: Information about others’ approval)

Note: No BCTs are associated with ‘memory, attention, and decision processes’ and ‘professional role and identity’, so BCTs were selected from the relevant intervention functions.

IF = Intervention Function; BCT = Behaviour change technique.

Training needs (enabler)

Knowledge gaps were identified about warning signs for self-harm risk, and protocols following a disclosure or discovery of self-harm. A lack of knowledge about referral pathways, particularly “*where to refer to... and how to contact them*” (Practice Nurse 2), presented barriers to implementation. However, participants cautioned against “*in-depth learning experience[s] about self-harm*”, because “*there’s only so much that [they] can learn and do*” (Practice Nurse 7) as generalists; three participants described only requiring an “*awareness*” (Practice Nurse 5) of the self-harm guidelines. Comparisons were drawn with existing Education interventions, such as for manual handling; four participants suggested that information about self-harm could be delivered as part of annual safeguarding training “*because everybody has safeguarding training*” (Practice Nurse 10).

I’d expect, sort of, an awareness of signs and symptoms... to know the referral pathway, how soon that patient is to be seen... just the knowledge of who to go for what; which contact for what. (Practice Nurse 2)

Cognitive and Interpersonal Skills

Building trust (enabler)

Participants were skilled at communicating with “*compassion, respect, and dignity*” (Practice Nurse 10). Rapport was deemed essential to “*broach [the] subject*” (Practice Nurse 12) of self-harm, but fostering long-term “*trust more than rapport*” (Practice Nurse 6) was considered important for continuity of care. There were opposing viewpoints about conversational techniques; five participants believed that patients would be reticent to “*admit*” (Practice Nurse 12) self-harm if asked directly, fearing that it could be interpreted as offensive. However, five other participants rejected strategies that they perceived to use hedging language, finding that patients are “*forthcoming if you’re just upfront and honest*” when asking about self-harm (Nurse Practitioner 9).

You also need to try and build that bond with the patients so that they’re engaging with you really, so that you can follow their care on... I think you also develop a skill of being able to listen to what they’re not saying as well. (Practice Nurse 6)

Challenging conversations (enabler)

Communication skills were considered to be products of experiential learning more than training, however, participants conceded that they sometimes experienced difficulties knowing what to say ‘on the spot’ to patients that spontaneously disclose self-harm. They identified a need for practical advice about appropriate things to say, and examples of “*open questions to ask*” to aid information-gathering (Practice Nurse 2). Potential solutions involved “*communication tools on how to actually start that conversation*” (Practice Nurse 1) about self-harm, or Training interventions that demonstrate how to communicate “*without patronising or judging*” (Practice Nurse 3) (i.e.: BCTTv1 6.1: Demonstration of the behaviour).

The sort of training that’s useful is the type [where] they tell you how to carry on the conversation with a person who’s starting to tell you about self-harm and how to react, and how to not back off it. (Practice Nurse 4)

Memory, Attention and Decision Processes

Translation of guidelines to support decision-making (enabler)

The guidelines were perceived to be useful to support decision-making about risk and referrals for self-harm, however, participants wanted the guidelines to be translated into more detailed protocols at a Trust- or service-level to ensure that “*everybody in the same service is doing the same thing*” (Practice Nurse 4). Barriers to decision-making included uncertainty about where to refer to, and the criteria for a referral. Other protocol-driven measures such as safeguarding processes, management plan pathways, and knowledge packs (e.g.: for falls) were identified as exemplar decision aids (i.e.: BCTTv1 12.5: Adding objects to the environment).

You need to have something specific for your area, that’s the thing, and that’s what NICE guidelines don’t do really. It’s just a very general overview. (Practice Nurse 5)

Recalling the guidelines and competencies (barrier)

Nurses described their assessment processes as “*engrained... right from the beginning of day one of your nurse training and the NMC guidelines*” (Practice Nurse 10). Although the self-harm guidelines were considered important, participants perceived that remembering their content was unfeasible due competing priorities in their workload, particularly relating to paid “*target*” incentives in

primary care (Practice Nurse 7). Self-harm and mental health problems in general were framed as just one of several competing priorities encountered in general practice. Participants working in practices where self-harm encounters were infrequent expressed concerns that their “*knowledge of these guidelines [would] fade away*” without regular use (Practice Nurse 10). Interventions to combat forgetting were suggested, such as annual reminders accompanying safeguarding training, and intranet summaries of NICE guidance for quick-reference (i.e.: prompts and cues, BCTTv1 7.1).

We all strive to implement all our NICE guidelines, but there are so many of them... if I was constantly updating myself with NICE guidelines, that's all I would be doing. I wouldn't be seeing anybody. (Practice Nurse 7)

Environmental Context and Resources

Time concerns (barrier)

Temporal barriers to guideline implementation were commonplace. Practice nurses reported difficulties with self-harm disclosures during appointments for other health concerns “*as they've got their hand on the door as they're leaving*” (Practice Nurse 4), resulting in extended appointments that put pressure on colleagues to rearrange their patients, or cause other patients to be delayed. Further, there were concerns about referral waitlists; uncertainty about how long referrals take for non-urgent cases contributed to repeat appointments in primary care to monitor patients long-term.

You often find people are coming back, people'll come back to me two, three, four times and say 'I know I'm on the waiting list but it's another two months or whatever before I'm seen.' Whereas if you get them seen quicker, that would cut down our time. (Practice Nurse 4)

Supporting resources (barrier)

Communication with secondary mental health services was hampered by time-consuming paperwork: “*you write an essay about why you're referring the patient*” (Practice Nurse 4). Although participants had access to same-day appointments from Crisis Teams for “*severe situations*” (Practice Nurse 10), concerns were raised about the availability of such services out of office hours, particularly at evenings and weekends. Nurses experienced challenges with

information-sharing between services, particularly when following-up after referrals to confirm whether the patient contacted the service, or attended their appointment.

It's very difficult nowadays for people to get appointments, even urgent ones... You would do what you could to get them an appointment that day. If necessary, I'd call the GP into the room so at least something was being done there and then. (Practice Nurse 5)

Social Influences

Supportive staff in general practices (enabler)

GPs supported practice nurses by providing team-based second opinions about patients. Two participants had a designated mental health or safeguarding lead they could consult about self-harm, while one participant identified a need for one in their practice. Support was enabled by an “*on-call system... [with] open door access*” (Nurse Practitioner 9) to a GP or another nurse, provided the practice had sufficient staff. Colleagues were enablers for implementation, through in-practice training, informal discussions, and structured all-staff meetings to highlight guideline updates and patients of concern: “*I think our practice is very good at communicating... it's not just about GPs and then nurses separately. It's a group thing.*” (Practice Nurse 10) (BCTTv1 3.2: Social support [practical]). One participant described having onsite access to a community-based psychiatrist part-time, which anecdotally improved communication with local community mental health services when requesting referrals.

One of the doctors I work with... I know he follows the guidelines which then makes it very easy to find out where the patient is on the pathway, so you know where to pick up from... That's quite useful to have somebody who we regard as the fount of all knowledge. (Practice Nurse 4).

Professional/Social Role and Identity

Responsibilities and perceptions (enabler)

Participants were motivated to implement the guidelines because they felt a “*duty of care for [patients'] safety*” (Practice Nurse 6). Although some practice nurses did not have the responsibility to make mental health-related referrals in their practices, they acknowledged they still have an important role in signposting patients and raising concerns with GPs following encounters involving self-harm.

Participants described patient perceptions that their profession made them more

approachable to discuss sensitive topics like self-harm, due to perceptions that they are less busy than doctors. This enabled them to identify patients at risk of self-harm that could potentially be missed by their GP.

It's just the perception of the nurse role. They're there to care for patients, and that's what they expect from us. They feel safe to share with us, and the perception that we listen better, whether that's true or not I don't know, but it's what a lot of the patients still tell me. (Nurse Practitioner 9)

Uncertainty about professional role (barrier)

Nurses believed that their responsibilities towards patients had to be balanced by the limits of their expertise and whether or not it was “*appropriate*” to act (Practice Nurse 3). Knowledge gaps (described above) undermined participants’ professional confidence to implement the guidance, and they perceived that the expectations for nurses in general practice were unclear in the self-harm guidelines. Inability to conduct referrals to mental health services within practices was believed to arise from perceptions that practice nurses would not encounter patients who self-harm: “*they assume a patient that's likely to self-harm or is self-harming would go straight to a GP. They don't necessarily think that it's going to be discovered incidentally... They don't think to have a process in place because they assume it will go to them.*” (Practice Nurse 1). Seven participants described difficulties maintaining professional boundaries with patients they encountered that had self-harmed due to feelings of worry; one of these participants had a personal history of self-harm.

I think you need to come across caring but not too, you know, still within a professional boundary, to that effect. I think communication and the ability to ask in a sympathetic way really, that's not something that's everyone's got (Practice Nurse 1)

Intervention development: Proposed functions and exemplar Behaviour Change

Techniques

Descriptions of domains and exemplar quotes are presented in Table 2; example interventions were derived from relevant intervention functions and BCTs, which had been mapped according to the Behaviour Change Wheel. Five out of nine intervention functions (Michie et al., 2011) were linked to six TDF domains: education, training, environmental restructuring, enablement, and modelling. Nine of

sixteen BCT groupings were found to be relevant: associations, natural consequences, comparison of behaviour, shaping knowledge, repetition and substitution, feedback and monitoring, antecedents, goals and planning, and social support. Sixteen unique BCTs were found to be relevant. For example, to target *memory, attention, and decision processes* suggested interventions might comprise: prompting nurses to rehearse and practice the process of making referrals for self-harm (intervention function: training; BCTTv1 8.3: Habit formation), or by adding an aide-memoire based on the self-harm guidelines to a practice's intranet safeguarding guidelines for quick reference (intervention function: environmental restructuring; BCTTv1 12.5: Adding objects to the environment).

Discussion

Main findings

This study contributes to the literature firstly by addressing the dearth of literature about primary care nurses' experiences of suicide and self-harm prevention, and secondly by highlighting six distinct domains that summarise the challenges they face to implementing national guidelines with patients at risk of self-harm. Two key intervention targets were identified from converging explanatory themes in the data: information delivery, and resource availability. This is the first study to use a theoretically grounded framework to identify drivers of implementation of the NICE guidelines for self-harm among nursing staff working in primary care. The TDF framework (Atkins et al., 2017; Cane et al., 2012) was used to identify potentially modifiable barriers and enablers to inform the development of interventions to support guideline- and competency-adherent practice in primary care. We utilised the Behaviour Change Wheel (Michie et al., 2011) to provide recommendations for potential behaviour change techniques and intervention functions that could be incorporated into interventions to redress these targets, and support nursing staff in primary care to follow the NICE guidance for self-harm (summarised in Figure 7.2).

Figure 7.1: Barriers and enablers to implementing the NICE guidelines for self-harm

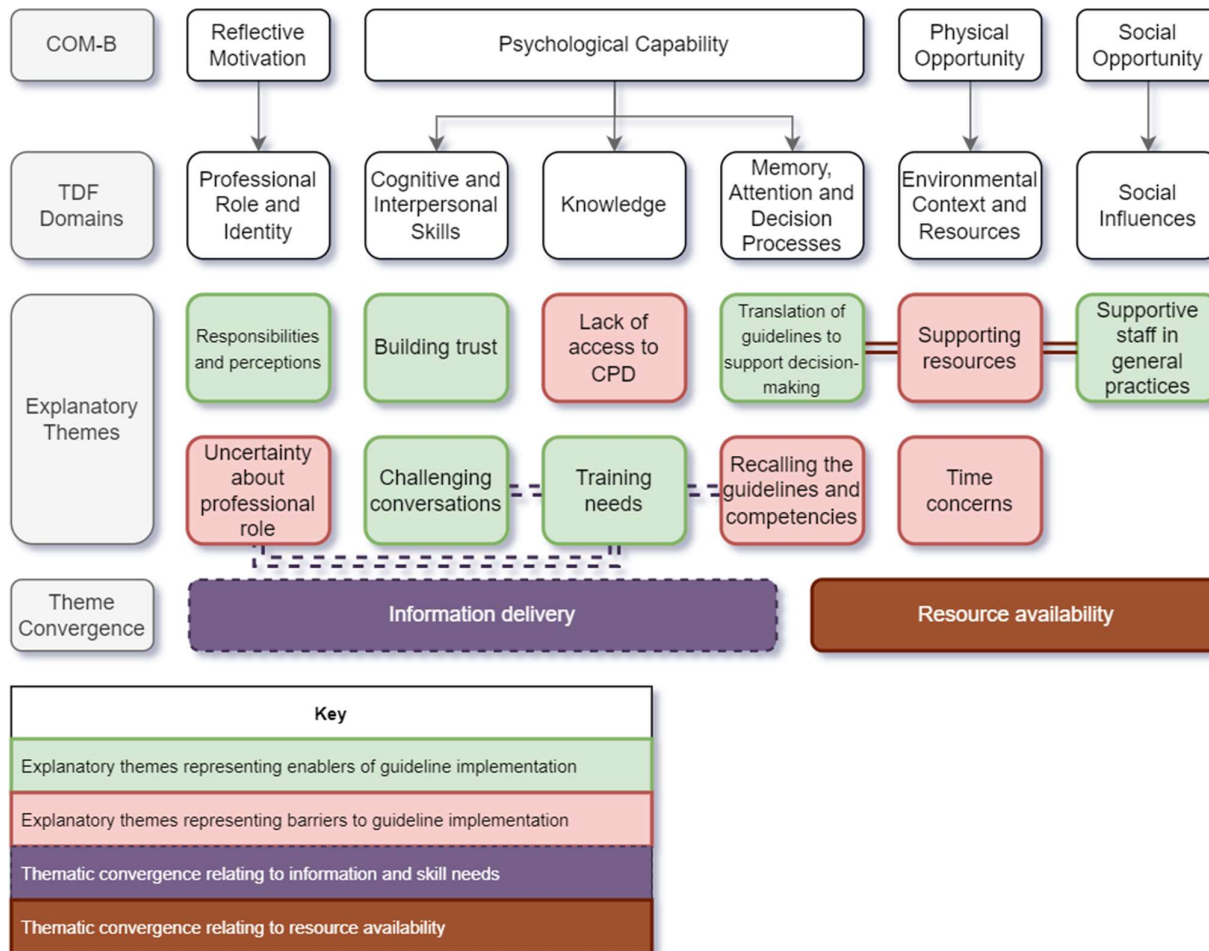


Figure 7.2: Summary of implications for practice, implementation and policy

- Practical training for practice nurses and healthcare assistants to provide knowledge about self-harm, and address skill gaps in relation to initiate conversations about self-harm.
- Integrate national guidance with links to local resources, referral pathways, and practice-level protocols to support decision making.
- Provide practice nursing staff with mentorship opportunities from senior staff members, and facilitate opportunities for information-sharing and between practice staff.

Our findings complement previous research suggesting that few practice nurses have undertaken professional development about mental health topics, including self-harm, since qualifying (Gask et al., 2018; Halcomb et al., 2021) (*Knowledge*). Although practice nurses perceive themselves to have an important role in activities related to mental health in primary care (Gask et al., 2018; Halcomb et al., 2021) (*Professional Role and Identity*) they have a perceived lack of communication skills, particularly in relation to emotionally charged topics (Gott et al., 2004; James et al., 2019), and believe that they need further training (Groenendijk-van Woudenberg et al., 2021; Pascoe et al., 2007) (*Cognitive and Interpersonal Skills*). Existing interventions to improve practice nurses' communication skills have largely involved integrating motivational interviewing techniques into consultations (James et al., 2020). While practice nurses utilise some of these techniques in intervention trials, they are not perceived to be easily applicable in routine practice (Engelen et al., 2020; Noordman et al., 2012), suggesting a need for enablement in addition to skills provision. Although enhanced training and education is an opportunity for intervention, to support long-term recall and implementation of the national guidelines annual reminders or additional training may be needed to sustain behaviour (Islam et al., 2020) (*Memory, Attention, and Decision Processes*).

Consistent with our findings, practice nurses perceive a need for supporting resources, and encounter environmental barriers such as time constraints, workload, and cost barriers to accessing training (Lucas et al., 2019; Pascoe et al., 2007)

(Environmental Context and Resources). As such, strategies are needed to create opportunities for practice nurses to be able to engage in professional development (Halcomb et al., 2021). Uncertainty about referral processes and guideline content in other areas of clinical practice prevents practice nurses from implementing evidence-based practice (Carrier, 2020; Prince & Nelson, 2011) (*Memory, Attention, and Decision Processes*). Lack of access to, and understanding of, primary information sources (such as national guidelines and research reports) reduces practice nurses' capabilities to translate their acquired knowledge (Mills et al., 2011). Environmental restructuring and enablement interventions could be designed to counter such uncertainty, to optimise the utility of the NICE guidelines in clear protocols that support decision-making without reinforcing template-driven care (Carrier, 2020; Prince & Nelson, 2011). An important resource described in our research was also a prominent enabler elsewhere in the literature; discussions and collaboration with colleagues was considered to be a powerful, and preferred, form of CPD among practice nurses (Bernier et al., 2020; Cunningham et al., 2019; Mills et al., 2011) (*Social Influences*). Our findings suggest that routine support and information-sharing from other practice staff is a powerful enabler, which could be facilitated through modelling and enablement interventions (Innes-Walker et al., 2019). However, intervention designers should be wary of pre-existing practice staff hierarchies, that potentially may be reliant on delegation and subordination instead of true collaboration (Bernier et al., 2020; Van Der Gulden et al., 2020).

We also found that participants recounted differing experiences of encountering patient self-harm and judging risk based on the demographics of the patients; in this study, prominent examples included postpartum patients, and patients who were adolescents. Further research is needed to explore how differing patient characteristics may affect the way self-harm is responded to by primary care staff, such as patient age (Mughal et al., 2021; Wand et al., 2022), patients with young families (Healey et al., 2013), and patients with existing comorbidities (Emerson et al., 2019; Webb et al., 2012).

Implications

The present study has acknowledged the important role that nurses can have in recognising and responding to self-harm in primary care, and has identified

candidate intervention targets to support primary care staff to implement national guidelines for self-harm (summarised in Figure 7.2). Firstly, staff would benefit from interventions to address deficits in knowledge and skills to support decision-making; sufficient education and training is needed to inform them about the content of the guidelines, self-harm risk factors, and to equip them with enhanced skills to tackle challenging conversations about mental health. Such interventions must be designed with generalists in mind; not only to prevent information overload and disengagement, but to ensure cost-effective and timely delivery within the scope of limited CPD hours (Cunningham et al., 2019; Lucas et al., 2019). A potential solution may be to integrate self-harm into existing annual refresher training, such as for safeguarding practices, guided by existing competency frameworks (National Collaborating Centre For Mental Health, 2018; Nursing and Midwifery Council, 2018a). Within the context of the new proposed self-harm guidelines (NICE, 2022), primary care nurses may need sufficient knowledge and skill to assess distress, intent, and the physical consequences of self-harm to make decisions about priority referrals. Secondly, resources are required to support adherence to the guidelines, that translate the guidelines into actionable decisions for practice nurses (Mills et al., 2011), and bolster collaboration and knowledge-sharing within general practices to ensure a uniform approach to self-harm (Bernier et al., 2020; Van Der Gulden et al., 2020). Resources that facilitate team-based continuity of care will be essential to implement the updated self-harm guidance; particularly to enable GPs and primary care nurses to coordinate regular reviews, follow-up appointments, and management of coexisting mental health problems (NICE, 2022).

This paper identified TDF domains from participant responses, to derive recommendations about specific BCTs that could form future interventions (represented in Table 7.2). Exemplar interventions could include peer coaching interventions to facilitate information-sharing about risk assessments and referral strategies (Intervention function: Modelling; BCT: Social support, practical). Interventions based on these findings would require piloting with involvement from practice nurses to provide acceptable, achievable improvements to guideline implementation. However, involvement with GPs, and key stakeholders such as practice managers, may also be fruitful to ensure interventions are feasible within general practices.

Strengths and limitations

The present study had a number of limitations. Firstly, the sample was over-represented by older, more senior members of staff who are less likely to have experienced more recent training initiatives about self-harm and mental health. Future research should aim to investigate implementation among nurses who qualified after the addition of suicide prevention competencies, and compare their practice with more senior counterparts to evaluate whether the new curriculum facilitates best practice. The sample was also limited by a lack of men, who may encounter unique barriers or enablers to implementing the self-harm guidelines and nursing competencies (Kronsberg et al., 2017). Discussion about certain TDF constructs, such as Emotion, were surprisingly absent from our data; since the topic guide was structured around the COM-B model instead of the TDF, it is possible that some TDF constructs were overlooked by the wording of the COM-B-derived questions. Alternative analytical approaches such as grounded theory may have better identified emergent themes that are not sufficiently explained by the TDF. However, a strength of this research is that our data still demonstrates spontaneous emergence of TDF-aligned themes, which supports the validity of mapping TDF constructs to the Behaviour Change Wheel (Atkins et al., 2017; Cane et al., 2012). By using a broad, semi-structured interview guide, participants had the opportunity to naturally describe drivers (McGowan et al., 2020). By utilising the TDF and BCT Taxonomy V1 together (Michie et al., 2013) we provide a theoretically-informed foundation for the development of quality improvement interventions, through a comprehensive collection of recommendations.

Conclusions

Nursing staff in general practice are well-placed to recognise and respond to self-harm (Kameg et al., 2013), but require support to adhere to national guidelines and nursing competencies. The present study used the Behaviour Change Wheel to (1) identify the drivers that influence whether practice nurses can implement the NICE guidelines for self-harm, and (2) suggest candidate interventions to support implementation, as derived from relevant TDF domains and behaviour change techniques. The six domains derived from the data could be addressed separately through targeted interventions, or together as part of more ambitious, complex

interventions to improve quality and patient safety. This work represents a starting point in addressing the dearth of research around the roles of nursing staff in primary care for self-harm, and provide timely recommendations to support them to assess and manage patients at risk of self-harm.

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**Chapter 8 Using the Behaviour Change Wheel to Develop an Intervention to
Implement National Guidance for Self-Harm in Primary Care (Paper 5)**

This article is in preparation for submission to *BMC Health Services Research*.

Note. As this paper is in preparation for publication, the formatting and layout are consistent with the requirements for BMC Health Services Research. For this chapter, the references will follow APA style, but will be placed at the end of the chapter rather than at the end of the thesis.

Abstract

Background: Many patients who self-harm seek help from primary care, however, many healthcare professionals do not, or cannot, implement national guidelines for self-harm. Given the hazards to patient safety associated with inaccurate risk assessments and prescribing errors, there is a clear need for implementation interventions to support GPs and practice nurses to adhere to the NICE guidelines.

Methods: The eight steps of the Behaviour Change Wheel framework were followed to design the intervention. The Capability Opportunity and Motivation (COM-B) model and Theoretical Domains Framework were used to understand the behavioural drivers of self-harm guideline adherence in the context of primary care from mixed methods data gathered from previous studies. Potentially relevant intervention functions were identified and evaluated using the APEASE (affordability, practicability, effectiveness, acceptability, side effects and equity) criteria.

Results: A 2-hour face-to-face workshop and supporting digital booklets were designed for delivery as part of all-staff protected learning. The intervention incorporates thirteen behaviour change techniques to address barriers in psychological capability, physical opportunity, and reflective motivation. Specific behaviours targeted by the intervention include initial assessments, medication reviews, and resource signposting.

Conclusions: This study described the use of the Behaviour Change Wheel framework to develop a workshop intervention for primary care professionals. The study will facilitate further use of behavioural science methods to develop and evaluate interventions that contribute towards self-harm and suicide prevention strategies.

Keywords: self-harm, evidence based guidelines, implementation, intervention development

Background

Many patients who self-harm seek help from primary care (Carr et al., 2016; Morgan et al., 2017), particularly young people (Marchant et al., 2020) and older adults (Morgan et al., 2018). Rates of primary care-recorded self-harm have remained stable since the onset of COVID-19, suggesting there is a sustained demand for care in spite of periods of disruption and the accelerated introduction of remote consultations (Carr et al., 2021; Steeg et al., 2022). The National Institute for Health and Care Excellence's (NICE) guidance recognises primary care as a key setting for the management of self-harm, and contains a series of recommendations specific to general practice (NICE, 2004, 2011); a forthcoming update will add further detail to the guidance for primary care professionals (NICE, 2022). Despite the availability of these guidelines, research suggests that adherence to them in primary care is sub-optimal (Cooper et al., 2008). Recent evidence indicating a drop in referral rates has raised concerns that some patients who self-harm are not receiving comprehensive psychosocial assessments (Steeg et al., 2022). Further discrepancies between the guidelines and practice include potentially harmful prescribing (Carr et al., 2016), and use of screening tools to predict subsequent risk (Michail & Tait, 2016).

The gap between the expectations of evidence-based guidelines and the delivery of clinical practice is well documented (Dopson et al., 2005; Nwabueze & Mileski, 2008). Effective interventions are needed to promote the uptake of evidence-based guidance into routine care, and improve patient outcomes (Gunther et al., 2012; Lowson et al., 2015), however, changing healthcare professional behaviour can be particularly challenging due to a range of obstacles to guideline implementation at the individual level, and at the system-level of the healthcare system (Cabana et al., 1999; Clark et al., 2017; Lugtenberg et al., 2009). Healthcare professionals require sufficient capabilities, opportunities, and motivation to implement the self-harm guidelines (Leather et al.; Chapter 5). Low awareness of the guidelines is associated with poorer adherence (McCann et al., 2006); a large survey of healthcare professionals found knowledge of the self-harm guideline content to be low, particularly among nurses (Leather et al., 2020). Interview studies with GPs (Leather et al., In Press; Chapter 6) and primary care nurses (Leather et al.; Chapter

7) identified a range of barriers and enablers to guideline adherence in primary care, including information and skill needs (psychological capability), clinical uncertainties surrounding self-harm (reflective motivation), and supporting resources to facilitate engagement with the guideline content (physical and social opportunities). Since primary care professionals encounter a range of interacting behavioural drivers, complex interventions are required to target the relevant behavioural drivers of implementing self-harm guidelines in the context of primary care.

To date, no interventions have explicitly been designed to facilitate self-harm guideline adherence in primary care, but there exist some primary-care based interventions to reduce self-harm by changing GP's practice (Almeida et al., 2012; Bennewith et al., 2002; Page et al., 2017). However, these studies elicited few changes to GPs' behaviour, and were limited by inconsistent theoretical grounding, unclear descriptions of intervention components, and poor understanding of behavioural drivers (Hoffmann et al., 2014). This limits their potential replicability and adaptation from small-scale trials into real world conditions (Bartholomew & Mullen, 2011; Moore et al., 2015). Additionally, to date, no interventions have attempted to change the behaviour of primary care nurses towards patients who self-harm; this is a potentially serious oversight, because both GPs and practice nurses play an important role in recognising and responding to self-harm in primary care (Bailey et al., 2019). The current study aimed to address this gap this by utilising a systematic, theoretically informed approach to intervention development for primary care professionals.

The use of theory is recommended by the recently updated Medical Research Council (MRC) framework as a strategy for the development and evaluation of complex interventions (Craig et al., 2008; Skivington et al., 2021). Theories are important for explaining and understanding which factors are likely to influence healthcare professionals' behaviour in a particular context, and to ensure interventions have an optimal impact on behaviour (Michie et al., 2005; Oxman et al., 1995). There are numerous theories of behaviour available, but there is little clarity about which theory is the most appropriate to guide intervention development (Michie et al., 2011). Consequently, the utilisation of theory is often poorly reported

in intervention studies, which creates problems for the replication, evaluation, and implementation of these interventions (Nilsen, 2015; O’Cathain et al., 2019).

To address this, the Behaviour Change Wheel (BCW) (Michie et al., 2011) was selected as the method of intervention development. The BCW synthesises 19 theories of behaviour change into a systematic, comprehensive, evidence-based approach to designing and describing interventions (Michie et al., 2014). At the core of this framework is the Capability (C), Opportunity (O), and Motivation (M) model of behaviour change (B; COM-B), which encapsulates environmental, social, affective, and cognitive determinants of behaviour. The COM components can be further sub-divided into the 14 constructs of the Theoretical Domains Framework (Cane et al., 2012; TDF), which provides a finer level of detail about the drivers of the target behaviour and the potential interactions between them. The COM-B and TDF can be used to facilitate a behavioural diagnosis (Atkins et al., 2017); the BCW provides a pathway from this analysis to select the most promising intervention functions and policy categories that will elicit behaviour change (Michie et al., 2014). Finally, the BCW intervention functions link to a taxonomy of 93 behaviour change techniques (Michie et al., 2013) from which to select appropriate intervention components.

A number of existing studies have used the behaviour change wheel to design interventions for healthcare professionals in a primary care setting, including a web-based GP intervention to implement guidelines for cardiovascular disease prevention (Bonner et al., 2019), and a medication management intervention (Sinnott et al., 2015). This paper aimed to describe the development of an intervention using the BCW to improve the implementation of national guidelines for self-harm in primary care.

Method

The BCW framework was used to guide intervention development (Michie et al., 2014). This approach involves three stages split into eight steps: 1. Understand the behaviour, 2. Identify Intervention Options, and 3. Identify content and implementation options. This section describes the steps for contextual purposes.

Step 1: Define the problem in behavioural terms

The initial step involves defining the problem of interest in behavioural terms, specifying the behaviour, and identifying the target population. We used the national guideline recommendations (NICE, 2004, 2011) to identify the behaviours expected of healthcare professionals. A review of the literature was conducted to document existing implementation gaps (Carr, Ashcroft, Kontopantelis, While, et al., 2016; Morgan et al., 2018; Wand et al., 2022; Young et al., 2020). A large survey of healthcare professionals was conducted to assess awareness and implementation of the guidelines, and to identify an appropriate target population (Leather et al., 2020).

Step 2: Select the target behaviour

This step usually requires creating a long list of candidate behaviours, which is systematically reduced by considering each behaviour in terms of amenability to change, spill-over effects, ease of measurement, and potential impact. Since our target behaviours were predetermined by the content of national guidelines for self-harm, we created a list from the recommendations in the self-harm guidelines for primary care professionals (NICE, 2004, 2011).

Step 3: Specify the target behaviour

The BCW recommends that the target behaviours be further specified by identifying *who* needs to perform the behaviour, *what* the person needs to do differently, *when* they will do this, *where* it will be done, *how often*, and *with whom*. We elaborated on the target behaviours by referring to the guidelines and the broader literature to ensure our descriptions reflected the context of general practice.

Step 4: Identify what needs to change

We conducted three studies to understand the barriers and enablers of the target behaviour: a quantitative survey of healthcare professionals ($n = 384$) that implement national guidelines for self-harm (Leather et al; Chapter 5), and two qualitative interview studies with GPs ($n = 21$) (Leather et al., In Press) and primary care nurses ($n = 12$) (Leather et al; Chapter 7). COM-B components were extracted from the quantitative survey, in addition to experiences of training about self-harm and perceived knowledge of the guidelines. This was explored in further detail using

the COM-B to structure interview questions in the qualitative studies, which were analysed using the TDF as a deductive framework (Gale et al., 2013).

Step 5: Identify intervention functions to achieve the desired behaviour

Appropriate intervention functions were selected by linking the TDF components most relevant for guideline implementation with their assigned intervention functions according to the BCW (Michie et al., 2011). The APEASE (Affordability, Practicability, Effectiveness/cost-Effectiveness, Acceptability, Side-effects/Safety, Equity) criteria were used to choose functions that were most likely to be effective in the intervention (Michie et al., 2014).

Step 6: Policy categories

After identifying candidate intervention functions, the BCW guidance was used to select complementary policy categories (Michie et al., 2014). Policy categories that enabled the most salient intervention functions (according to APEASE criteria) were highlighted as being the most likely to enable the intervention.

Step 7: Identify behavioural change techniques

The intervention functions identified in Step 5 were used to guide the selection of a long list of behaviour change techniques from the Behaviour Change Technique Taxonomy V1 (Michie et al., 2013). The final list of behaviour change techniques for the intervention was refined to only include strategies feasible within the context of primary care by using the APEASE criteria.

Step 8: Identify mode of delivery

Mode of delivery was selected from the taxonomy included in the BCW (Michie et al., 2014, p. 177). The TIDieR checklist was used to specify the proposed *who*, *what*, *how*, and *where* of intervention delivery (Hoffmann et al., 2014).

Results

Step 1: Define the problem in behavioural terms

We identified the behavioural problem as a lack of implementation of national guidelines for self-harm: the literature demonstrates that comprehensive psychosocial assessments are not always provided to patients following self-harm (Carr et al., 2021; Mullins et al., 2010; Steeg et al., 2022), prescribing errors are made (Carr, Ashcroft, Kontopantelis, While, et al., 2016; Morgan et al., 2018), and individuals are not always treated with the same level of dignity and respect as other patients (Bailey et al., 2017; Mughal et al., 2021; Troya et al., 2019). We specified the location as primary care, due to the volume of patients that are managed in primary care following self-harm (Carr, Ashcroft, Kontopantelis, Awenat, et al., 2016; Marchant et al., 2020), and the extent of guidelines awareness among primary care staff (Leather et al., 2020). The individuals involved in the behaviour are patient-facing primary care staff who are most likely to encounter patients that self-harm: namely GPs (Bailey et al., 2017; Chandler et al., 2020; Rowe & Jaye, 2017) and primary care nurses (Bailey et al., 2019; Poustie & Neville, 2004).

Step 2: Select the target behaviour

A list of behaviours was generated by combining the short- and longer-term recommendations for primary care professionals (NICE, 2004, 2011); an example behaviour was '*Organise referral to specialist services (contingent on outcome of initial assessment)*'. Behaviours were shortlisted based upon whether there were indications in the literature that they were unacceptable. For example, '*Monitoring: Care for coexisting mental health problems*' was deemed unacceptable because primary care staff already do this as part of their role in general practice. The full shortlist and reasons for exclusion is detailed in Appendix H. Table 8.1 illustrates the process of selecting target behaviours using the BCW guidance (Michie et al., 2014); *Initial assessment: determining the frequency, degree, and risk of repetition of self-harm*, *Monitoring: medicine review*, and *Monitoring: resource provision/signposting* were selected as the most appropriate behavioural targets.

Table 8.1: Select the target behaviour

Potential target behaviour relevant to improving implementation of National Guidelines for self-harm	Impact of Behaviour Change	Likelihood of changing behaviour	Spill-over score	Measurement Score
Avoid stigmatising language	++	+	+	-
Organise referral (contingent on result of initial assessment)	+	±	±	+
Initial assessment: determining the frequency, degree, and risk of repetition of self-harm	++	+	+	±
Initial assessment: determining suicidal intent	+	±	+	±
Monitoring: Regular follow-up appointments	±	-	++	+
Monitoring: review of self-harm behaviour	+	±	++	±
Monitoring: medicine review	++	+	±	+
Monitoring: resource provision/signposting	+	++	±	+

(++ very promising)

(+ promising)

(± not promising but worth considering)

(- unacceptable)

Step 3: Specify the target behaviour

By specifying the targets using the prompts in the BCW (Michie et al., 2014), we identified three distinct behaviours to facilitate implementation of national guidelines for self-harm in primary care (described in Table 8.2). We noted from the literature that primary care nurses have a potentially important role in recognising and responding to patients who self-harm, so they were included as intervention targets alongside GPs where appropriate (Bailey et al., 2019; Poustie & Neville, 2004).

Table 8.2: Specify the target behaviour

Target behaviour	Assess frequency, degree, repetition risk	Medicine review	Resource provision/signposting
<i>Who</i>	GPs (and nurses qualified to refer)	GPs	GPs and primary care nurses
<i>What</i>	Assess the patient's risk of repeat self-harm by determining frequency and degree. Those at high risk of repetition and/or increasing frequency/degree should be prioritised for referral to mental health services.	Review the patient's medications to reduce risk of self-poisoning. Check for prescriptions that are potentially toxic in high doses; ensure patient is not prescribed tricyclic antidepressants; judge if prescriptions can be provided in smaller pack sizes.	Provide patient with information about self-harm, signpost to local community/third-sector organisations for support, advocate self-help strategies to reduce self-harm.
<i>When</i>	During consultation with patient	During consultation with patient	During consultation with patient
<i>Where</i>	Face-to-face/remote appointment	Face-to-face/remote appointment	Face-to-face/remote appointment
<i>How often</i>	As part of initial assessment	Following initial assessment; during follow-up appointments.	Following initial assessment; whilst waiting for referral to specialist services
<i>With whom</i>	With patient that has self-harmed, or has a history of self-harm and risk of repetition.	With patient that has self-harmed, or has a history of self-harm and risk of repetition.	With patient that has self-harmed, or has a history of self-harm and risk of repetition.

Step 4: Identify what needs to change

By integrating data from three studies (Leather et al., In Press; Chapter 5; Chapter 7) using the COM-B and TDF to understand the barriers to implementing national guidelines for self-harm in primary care, six TDF domains across three COM-B components were identified as potentially important intervention targets. A summary of these barriers is included in Table 8.3. While automatic motivation was found to be a relevant driver in the survey, it did not appear as a salient driver in either interview study; since both of these studies were more closely mapped to the context of primary care, the decision was made to not include automatic motivation as a barrier in the behavioural analysis.

Psychological capability

The survey data and interviews with practice nurses and GPs affirmed that prior knowledge about self-harm and mental health are important for implementing the NICE guidelines for self-harm. Participants perceived a need for education about self-harm that was aimed at generalist health professionals, could be completed within limited CPD (continuous professional development) hours, and was not prohibitively expensive for the individual professional or their practice (*Knowledge*). While GPs and primary care nurses judged themselves to be highly skilled at discussing sensitive issues (including self-harm), participants noted that they had difficulties de-escalating patients who were highly distressed within the context of a standard-length appointment (*Cognitive and interpersonal skills*). There were a number of barriers to following the guideline recommendations, including perceptions that the recommendations were difficult to remember, concerns that checking the guidelines would distract from potentially important patient cues, and that the recommendations would be at odds with their professional judgement (*Memory, attention and decision processes*).

Physical opportunity

Environmental barriers were prominent in both the survey and interview studies. There was overlap with psychological capability insofar that the formatting and content of the NICE guidelines were considered to be inaccessible and unhelpful for busy professionals to use for decision-making during consultations

(Environmental context & resources). The time constraints of general practice prevented healthcare professionals from implementing all of the guideline recommendations during standard-length appointments; solutions such as double-length, or sharing appointments with other staff members were not always feasible in understaffed and rural practices. Finally, GPs and practice nurses struggled to gatekeep specialist mental health services for patients who self-harm; secondary services have long waiting times and high thresholds, and many staff were unaware of any local third-sector or non-NHS organisations they could signpost patients towards.

Reflective motivation

The interview data revealed uncertainties about managing self-harm in primary care, which had considerable overlap with the perceived knowledge and skill gaps. GPs expressed barriers to longer term management of self-harm, particularly for patients waiting for referrals to secondary mental health services due to concerns about how to care for patients with complex mental health needs (*Beliefs about capabilities*). On the other hand, primary care nurses described difficulties maintaining professional boundaries with patients due to ambiguities about the extent of their responsibility to recognise and respond to patients who self-harm (*Professional/social role and identity*).

Table 8.3: Behavioural analysis of barriers to implementing NICE guidance for self-harm, with candidate intervention functions and BCTs

Barrier identified	COM-B	TDF	Intervention function	BCTs	Translation of BCTs into intervention components
Lack of access to CPD about mental health and self-harm that is suitable for generalist healthcare professionals	Psychological capability	Knowledge	Education	4.2 Information about antecedents 5.1 Information about health consequences 7.1 Prompts/cues	Provide information about self-harm, recognising risk factors, the association between self-harm and suicide, and the content of the guidelines. Outline recommended process of initial assessment to capture repeat self-harm risk.
Difficult to remain sensitive under pressure with distressed patients	Psychological capability	Cognitive & interpersonal skills	Training	4.1 Instruction on how to perform a behaviour 6.1 Demonstration of behaviour 8.1 Behavioural practice/rehearsal	Provide group session on managing mental health-related distress, and talking about self-harm without using potentially stigmatising language. Group role-play exercises to demonstrate and practice techniques.
Decisions about longer-term management made based upon professional judgement and patient history	Psychological capability	Memory, attention & decision processes	Training Enablement	1.4 Action planning 13.2 Framing/reframing	Explore how to incorporate assessment of self-harm risk with general mental health risk process. Discuss why guideline content is perceived to be at odds with healthcare professionals' existing process of risk assessment.

Guidelines perceived to be a distraction from patient cues during risk assessments	Psychological capability	Memory, attention & decision processes	Training Enablement	1.2 Problem solving 13.2 Framing/reframing	Discuss opportunities to refer to guidelines pre- or post-consultation. Compare and contrast checking the guidelines with checking other resources.
Difficult to recall guidelines and competencies during consultations	Psychological capability	Memory, attention & decision processes	Training Enablement	12.5 Adding objects to the environment	Provide short-form/summary version of the guidance in a digital booklet that outlines the key responsibilities in the NICE guidance.
Guideline content perceived to be vague and unrealistic; unsuitable for quick reference	Physical opportunity	Environmental context & resources	Enablement	12.5 Adding objects to the environment	Provide short-form/summary version of the guidance in an electronic booklet that is optimised for quick reference during appointments.
Lack of access to secondary/specialist resources	Physical opportunity	Environmental context & resources	Enablement	1.2 Problem solving 1.4 Action planning 12.5 Adding objects to the environment	Discuss longer-term management options outlined in guidance. Gauge practice capacity to create repeat appointments for monitoring self-harm. Provide a list of local third-sector and non-NHS mental health organisations that offer support to patients awaiting mental health referrals.

Time constraints in general practice (10-minute appointments)	Physical opportunity	Environmental context & resources	Enablement	1.2 Problem solving 1.4 Action planning 3.2 Social support (practical)	Identify risk assessment priorities. Gauge practice capacity to create repeat appointments for monitoring self-harm. Identify practice staff skilled/interested in mental health who can share expertise and appointment capacity.
Uncertainty about professional remit when monitoring a patient longer-term (GP)	Reflective motivation	Belief about capabilities	Education Persuasion Enablement	9.1 Credible source 13.2 Framing/reframing 1.2 Problem solving	Include a summary of the evidence base about the valuable role of primary care in self-harm management as part of the educational session. Identify current strategies for longer-term management, and explore ways in which risk and medication reviews can be monitored.
Uncertainty about professional role (nurse)	Reflective motivation	Professional/social role and identity	Education Modelling	6.3 Information about other's approval 7.1 Prompts/cues 6.1 Demonstration of the behaviour	Provide pre-recorded information from patient stakeholders with lived experience about preferred language and risk cues. Group session on how to recognise and respond to self-harm risk factors, including escalation to GP.

Step 5: Identify intervention functions to achieve the desired behaviour

Based upon the BCW guidance, seven of nine possible intervention functions were potentially relevant to the TDF domains identified in the studies. The process of using the APEASE criteria to determine the most appropriate intervention functions is included in Appendix H. Education, Training, Enablement, Persuasion, and Modelling were judged to be the most effective intervention functions for use in a primary care setting.

Step 6: Policy categories

All seven policy categories were linked to the five intervention functions according to the BCW guide. Utilisation of the APEASE criteria (demonstrated in Appendix H) indicated that Regulation, Fiscal measures and Legislation would be inappropriate approaches to enable the intervention, and Environmental/Social Planning would be beyond the scope of the intervention. As such, Communication/marketing, Service provision, and Guidelines were most appropriate for the intervention.

Step 7: Identify behavioural change techniques

A long list of BCTs mapped to the selected intervention functions is shown in Appendix H. The APEASE criteria were applied to select a shortlist of 17 potential BCTs from 11 different BCT categories (Michie et al., 2013). Thirteen BCTs were considered appropriate to address the barriers identified in Stage 4.

Step 8: Identify mode of delivery

The mode of delivery was decided to be a combined in-person group workshop and digital reference booklets. The TIDieR checklist is reported in Appendix H. The proposed intervention consists of 13 BCTs delivered to GPs and primary care nurses working in general practices through a 2-hour face-to-face workshop. The translation of BCTs into intervention components is demonstrated in Table 8.3. The intervention is designed to be delivered by a GP educator and supported by a patient facilitator with lived experience of self-harm; delivery by an educator who is perceived to have expertise and in-depth understanding of general practice is important for intervention engagement (Grimshaw et al., 2012; Protheroe

et al., 2021), and patient-led training was highlighted as important in the data (Leather et al., 2022). Accordingly, the GP educator must meet the following criteria: (a) Be from a health profession represented within primary care (e.g.: GP, primary care nurse, practice manager); (b) Have experience with dealing with self-harm; (c) have the capacity and interest to advise on acceptability or feasibility issues with the intervention and study protocol. The patient facilitator must (a) Have lived experience of self-harm; b) Have previously accessed support from primary care for self-harm; (c) Be currently well enough to discuss practice for self-harm.

The in-person workshop will be delivered as an all-staff CPD session, which is feasible if undertaken as protected learning time in general practices (Szilassy et al., 2021). The educational session will last no longer than two hours in order to maintain engagement and facilitate attendance from staff members (Protheroe et al., 2021). As part of the workshop, staff will be provided with two digital booklets: one containing a quick-reference summary of the NICE guidelines for self-harm, and a second containing a list of local third-sector, non-NHS organisations, and self-help materials that can support people who self-harm. This will need to be tailored to the local context of the site in receipt of the intervention. Provision of information packs can bolster the effectiveness of educational interventions for GPs (Watson et al., 2001).

Discussion

This study described the development of a novel, theory-based intervention to improve implementation of national guidelines for self-harm in primary care. To our knowledge this is the first intervention intended to address practice gaps in guideline implementation for self-harm, specifically relating to risk assessments (Bruco et al., 2018; Steeg et al., 2022), and issues with longer-term management such as medication reviews and resource signposting (Carr et al., 2016; Leather et al, In Press).

The intervention is designed to be delivered as an all-staff CPD training package in general practices as part of protected learning time for GPs and practice nurses (Cunningham et al., 2019; Sholl et al., 2017), involving a brief educational workshop and two digital reference booklets. Intervention functions (*Education, Training, Enablement, Persuasion, Modelling*) chosen for the intervention were

generated from multiple synthesised data sources, including a survey and qualitative interviews, which characterised the drivers of adherence using the COM-B and TDF in accordance with the recommendations of the BCW framework (Michie et al., 2014). The selection of thirteen appropriate BCTs to operationalise the intervention was rigorously guided by the APEASE criteria and BCT Taxonomy V1 (Michie et al., 2013). Combining these BCTs and intervention functions will ensure that the intervention goes beyond merely providing skills or knowledge, which alone is insufficient to change healthcare professional behaviour (Michie et al., 2005; Sikorski et al., 2012); in addition to targeting capabilities this intervention supports self-harm guideline implementation by enhancing the motivation of GPs and practice nurses, and providing strategies to navigate the contextual challenges of general practice (Pickup et al., 2017; Willcocks & Milne, 2015).

Existing interventions to facilitate mental health guideline implementation in primary care have been limited by focusing on information provision and overlooking other implementation barriers (Sikorski et al., 2012; Sinnema et al., 2013). Furthermore, the small number of existing interventions to change GP behaviour relating to self-harm are limited by unclear development processes and a lack of theoretical grounding (Almeida et al., 2012; Milner et al., 2017). The use of enablement-focused BCTs such as framing/reframing (BCT 13.2, BCTTv1) and problem solving (BCT 1.2, BCTTv1) in the present intervention is likely to be acceptable to GPs, who are more amenable to implementation interventions that provide support and choice over enforcement (McDermott et al., 2010). Additionally, providing the workshop ‘in-house’ as an organisational intervention in small practice groups is a preferred strategy for implementation interventions among GPs (Lugtenberg et al., 2014). A further strength of this intervention is including the needs of primary care nurses in our analysis of behavioural drivers, since their role in self-harm prevention is often overlooked despite their potential importance (Bailey et al., 2019).

While primarily used to design interventions to change health behaviours, the BCW has been widely used to develop interventions to change healthcare professional behaviour (Richardson et al., 2019). Examples of primary care-focused guideline interventions developed with the BCW include interventions to change complex behaviours such as imaging referrals (Jenkins et al., 2018), discontinuing

antidepressants (Bowers et al., 2021), and shared decision-making (Bonner et al., 2019). Utilising the BCW framework was advantageous because it ensured the development procedure was transparent, systematic, and theory-based, corresponding with the expectations of the MRC guidelines for complex intervention design (Craig et al., 2008; Skivington et al., 2021). This study provides a worked example of how to apply behavioural science methods to address implementation in a sensitive area of healthcare provision; this may facilitate further work using implementation science methods and health psychology theory to understand and improve practice in the wider field of self-harm and suicide prevention (Reifels et al., 2022).

Limitations

Since the data for this study was collected, the MRC guidance for intervention development was updated (Craig et al., 2008; Skivington et al., 2021); as such, some aspects of the development process are incommensurate with the current recommendations for complex intervention development. For example, the research was limited by a lack of stakeholder involvement throughout the process of development (Borek et al., 2019; Sturgiss & Douglas, 2016). Since intervention development is non-linear, stakeholders such as clinical staff, practice managers, and patient representatives could be involved in the feasibility and evaluation of the intervention to refine the intervention content prior to piloting (Skivington et al., 2021). Furthermore, no formal economic considerations have been undertaken to indicate whether the potential costs of the proposed intervention would outweigh the potential benefits of implementing the guidelines for self-harm (Drummond, 2016; Sculpher, 2000).

While consideration was given to the context of primary care when analysing behavioural drivers and selecting intervention components, general practices surgeries are heterogeneous environments depending on their staff size, and catchment area (Lau et al., 2015; Phillips et al., 2010; Pineault et al., 2014). As such, the intervention may require further tailoring to meet the needs of practices that are rural (Wilson et al., 2009), and/or have low staff numbers (Van Der Feltz-Cornelis & Ader, 2000). Additionally, primary care was forced to adapt rapidly to remote consulting during the COVID-19 pandemic (Khan et al., 2020; Murphy et al., 2021).

Since the data for the included studies was collected prior to the pandemic, new barriers may have arisen or become more prominent as a result of changes to service provision (Mughal, House, et al., 2021). Further data will need to be gathered during the feasibility and evaluation stages to understand the implications of post-COVID changes to self-harm management in primary care (Carr et al., 2021; Steeg et al., 2022).

Conclusion

We have developed a novel intervention using a systematic, theory-driven framework that aims to improve implementation of national guidelines for self-harm among GPs and primary care nurses. The combined face-to-face workshop and digital booklets require feasibility and acceptability testing with key stakeholders such as GPs, primary care nurses, and practice managers before pilot testing. The described intervention development strategy may be useful for researchers planning to use the BCW guide to design other interventions intended to improve implementation of national mental health guidelines.

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Chapter 9 General Discussion

Overview of Chapter

This chapter outlines the contribution made to the literature by the studies in this PhD thesis. It includes a summary of the key findings, and a description of the main strengths and limitations of the overall approach. Implications of the findings for policy and clinical practice are provided. Finally, recommendations for future research are discussed.

Summary of Key Findings

The two overarching aims of this thesis were to understand the drivers of following the NICE guidelines for self-harm, and to use the drivers to inform the development of a quality improvement intervention to increase implementation of national guidance for self-harm. Accordingly, a pragmatic approach to data collection using mixed methods was adopted to address these aims, guided by a structured, theory-based intervention development framework.

Quantitative survey studies

The survey study (Chapter 4) examined implementation and awareness of national guidelines for self-harm for the first time among a large, nationally representative sample of UK healthcare professionals. The study highlighted that most UK healthcare professionals had heard of the NICE guidelines for self-harm, but less than a quarter were knowledgeable about their content. Furthermore, the guidelines were implemented with fewer than half of encounters with patients who had self-harmed, or were at risk of repeat self-harm. Awareness, implementation, and access to training about self-harm was poorest in non-mental health settings, indicating that they should be prioritised for implementation interventions.

The second study (Chapter 5) analysed a sub-sample from the survey who were aware of the NICE guidelines for self-harm and had previously encountered a patient that had self-harmed, in order to examine the behavioural determinants of guideline implementation using the COM-B model. The study found that healthcare professionals had sufficient capabilities (i.e.: skills and knowledge) to implement national guidelines for self-harm, but deficits in physical opportunity (i.e.:

environment and context) and automatic motivation (i.e.: habits) were barriers to implementation. This shows that education and training interventions are insufficient to improve guideline implementation without mechanisms to bolster healthcare professionals opportunities and motivations.

Qualitative interview studies

The first semi-structured interview study (Chapter 6) examined the barriers and enablers to guideline implementation in finer detail among a sample of GPs using the Theoretical Domains Framework (TDF). The study revealed that GPs perceived knowledge and skill gaps related to conducting consultations relating to self-harm and mental health (*knowledge; cognitive and interpersonal skills*). GPs described difficulties engaging with the guidance due to their appearance and format being unsuitable for quick reference (*environmental context and resources*). However, GPs were receptive to further guidance that would address clinical uncertainties relating to longer-term management of patients waiting for mental health referrals (*beliefs about capabilities; memory, attention, and decision processes*).

The second interview study (Chapter 7) explored behavioural drivers among primary care nurses. Practice nurses also expressed a need for practical training to address knowledge and skill gaps to engage with patients who self-harm (*knowledge; cognitive and interpersonal skills*). Lack of access to mental health resources, referral pathways, and local protocols were salient barriers to guideline implementation (*environmental context and resources; memory, attention, and decision processes*). However, nurses also described the positive influence of peer mentors and information-sharing within practices (*social influences; professional role and identity*). Candidate intervention functions and behaviour change techniques for interventions were proposed to address the barriers identified in both studies using the TDF and Behaviour Change Wheel framework.

Intervention development study

The final study (Chapter 8) describes the process of synthesising the findings of the quantitative and qualitative studies to design the intervention for a primary care setting. The eight steps of the Behaviour Change Wheel approach were

followed to combine the findings; the APEASE criteria were used to identify the most appropriate intervention functions, behaviour change techniques, and modes of delivery for the context of general practice. Thirteen behaviour change techniques were selected to enact five intervention functions: *Education, Training, Enablement, Persuasion, and Modelling*. These were chosen to be delivered through a combined workshop intervention, and digital summary booklets. The main target behaviours of the intervention are intended to be initial risk assessments (i.e.: identification of risk); medication reviews as part of long-term management, and facilitating resource provision and signposting (i.e.: directing patients towards self-help and third-sector resources).

Comparisons with Existing Literature and Interpretation

While this project is the first to explicitly examine the behavioural drivers of self-harm guideline implementation in order to develop an intervention, the findings of the PhD largely concur with existing literature. In terms of identifying the determinants of evidence-based practice, our studies corroborate findings from extant literature that healthcare professionals require specific skills and knowledge to adhere to the NICE self-harm guidance (Heyward-Chaplin et al., 2018; Mullins et al., 2010). However, our work extends these findings in two main ways: firstly, our studies recruited healthcare professionals working outside of mental health and emergency health services, who have received little focus in the research literature (Dillon et al., 2020; Rayner et al., 2019). Secondly, we precisely specify the nature of the knowledge and skill gaps perceived by healthcare professionals, which primarily relate to information needed to guide decision-making for longer-term management of self-harm, identifying self-harm risk factors, and strategies to care for distressed patients in a sensitive and efficient manner.

Our findings also supported the role of environmental (i.e.: contextual) factors in preventing or facilitating guideline adherence (Austad et al., 2015; Gurses et al., 2010; Lilley et al., 2008; Lugtenberg et al., 2009). Previous work has yet to explore these factors in relation to self-harm guidelines, but a questionnaire exploring adherence to depression guidelines among GPs reported similar barriers in accessing secondary mental health services, time constraints in consultations, and the quantity of guidance being overwhelming (Toner et al., 2010). GPs who had the

opportunity to read the guidelines were more likely to implement them and hold positive attitudes about their content, however, they also perceived that the guidelines were too long (Gyani et al., 2012). A further study of depression guideline adherence among community mental health teams revealed low confidence in using the guidelines due to a lack of access to supporting resources and perceived knowledge gaps in identifying severity and risk (Rhodes et al., 2010). Access to specialist services outside of typical office hours is a common barrier in the literature (Gunnell et al., 2005; Hiles et al., 2015; Mulhearn et al., 2021). The above studies recommend that interventions needed to be developed that combine the provision of knowledge with resources and decision supports; these functions were also identified as salient in our own analysis, and were integrated into the design of the intervention.

In terms of motivational drivers, our findings demonstrating hesitancy towards utilising the guidelines for fear of compromising decision-making processes is concordant with long-standing criticisms of clinical practice guidelines (Grol et al., 1998; Gupta & Warner, 2007). A possible explanation is that many healthcare professionals are reluctant to adhere because they perceive the guidelines as incompatible with exercising their professional judgement (Spyridonidis & Calnan, 2011). Guideline implementation is perceived by some to be a bureaucratic exercise rather than a means to improve quality of care (Spyridonidis & Calnan, 2014), which is incongruent with the professional identity of healthcare professionals who thrive upon clinical autonomy and the utilisation of their specialist skills and knowledge (Court et al., 2017). As such, we have recommended that our intervention should not aim to enforce adherence, but utilise problem solving techniques (BCTTv1: 1.2) with healthcare professionals to enable them to adhere flexibly without restricting their clinical freedom (Lindgren et al., 2020).

The qualitative studies in particular contribute to the body of research about the role of primary care as an important care setting for people who self-harm (Tait & Michail, 2014). Our findings complement earlier research indicating knowledge gaps among GPs about self-harm and national guidance (Cello Health PLC, 2012; Fox et al., 2015). While primary care professionals acknowledge that they are highly skilled to conduct difficult conversations (Keyworth et al., 2020b; Miller, 2013), our studies show that GPs and nurses have reservations about potentially saying ‘the wrong thing’ to people who self-harm (James et al., 2019; Lindgren et al., 2020),

inadvertently exacerbating the patient's distress, and putting further strain on an already stretched general practice service (O'Keeffe et al., 2021; Smith et al., 2015). While the role of GPs in supporting patients who self-harm is starting to gain prominence (Mughal et al., 2020, 2022), the role of primary care nurses is still relatively under-researched (Bailey et al., 2019). The second qualitative study provides novel insight into the experience of primary care nurses that encounter patients who self-harm, and indicates that in addition to recognising self-harm and escalating to a GP, that some practice nurses are also involved in organising external referrals. This suggests that both GPs and practice nurses should be targeted by interventions to enable guideline implementation.

In terms of intervention development, our proposal to create a multifaceted workshop with supporting digital materials is concordant with successful implementation strategies. Knowledge provision alone has some impact on performance, but is more effective at facilitating guideline implementation in conjunction with other intervention functions such as modelling and enablement, which were selected for the present intervention (Wensing et al., 1998). Systematic review evidence indicates that multifaceted interventions combining educational sessions with information sheets or reminders are highly effective at increasing uptake of clinical practice guidance (Pereira et al., 2022; Pradhan et al., 2021; Shanbhag et al., 2018). Moreover, they have been found to be particularly effective at enhancing nursing practice (Forman-Hoffman et al., 2017; Jeffery et al., 2015; Lineker et al., 2010). Our intention to develop digital guideline summaries and local signposting resources echoes previous work finding that GPs benefit from short, accessible resources that are easy to refer to amidst the time pressures of general practice (Gyani et al., 2012). Although existing intervention studies indicate that digital resources based on the NICE guidelines are acceptable and popular for supplementing professional knowledge, it is unclear whether these interventions are actually effective at changing practice (Walsh et al., 2010), thus highlighting the need for controlled pilot studies to test the intervention.

Key Strengths of the Studies

The work in this PhD thesis addresses a key area of health provision for people with complex mental health needs, and provides an important contribution to

national suicide prevention strategies using behavioural science methods (Reifels et al., 2022). The main novelties and strengths of the empirical studies (which are described in greater detail in their respective chapters) were: (1) surveying a nationally representative sample of UK healthcare professionals to understand awareness and implementation of the self-harm guidance, (2) gaining a comprehensive understanding of the behavioural drivers of guideline adherence by using a theoretical framework, and (3) utilising a systematic, theory-based approach to intervention development in accordance with best practice (O’Cathain, Croot, Duncan, et al., 2019; Skivington et al., 2021).

An overall benefit of the work is that it makes a significant and timely contribution to the current body of research surrounding self-harm ahead of the forthcoming guideline update (NICE, 2022b), by identifying barriers and facilitators in service provision that need to be addressed to improve patient safety (Quinlivan et al., 2020). The use of behavioural science methods to comprehensively address this important topic marks a departure from solely regarding self-harm care provision as being in the domain of specialist healthcare by considering opportunities for intervention in the wider healthcare context, as recommended in national self-harm and suicide prevention policies (HM Government, 2019; Reifels et al., 2022). In addition to challenging the perception that care for self-harm is only feasible within the realm of emergency and psychiatric settings, we identify basic skill and knowledge needs that can be acquired by generalist healthcare professionals without the need for mental health expertise (MacDonald et al., 2021). Furthermore, the work shines a light on the potential for the ‘hidden’ topic of self-harm to gain more prominence in generalist medical and nursing educational curricula (Joiner & Kaewchaluay, 2021; Nursing and Midwifery Council, 2018).

In terms of intervention design, a main strength of the work is the formal, explicit use of theory throughout the process of intervention design (Davidoff et al., 2015). Complex interventions are typically poorly described, using inconsistent terminology which prevents replication and scrutiny (Michie et al., 2009; Michie & Abraham, 2008). This body of work elected to use the Behaviour Change Wheel as a transparent, systematic approach to intervention development and data synthesis, to translate the knowledge gained from the empirical work into recommendations for practice (Damschroder, 2020; Michie et al., 2014). This ground-up approach to

intervention design ensured the integration of contextual and provider-level drivers of implementation behaviours (Klaic et al., 2022; Reifels et al., 2022), into fully operationalised intervention recommendations (Yue et al., 2014). Utilising the Behaviour Change Wheel ensured the development process was concordant with the MRC guidance for theory-based intervention development (Craig et al., 2008; Skivington et al., 2021), and enhanced the theoretical coherence of the intervention (Gardner et al., 2010).

Complementary to the Behaviour Change Wheel framework, the use of the TDF as an analytical framework to understand behavioural drivers was beneficial because it provided a robust structure and language with which to identify intervention targets (Cane et al., 2012; Damschroder, 2020). An advantage of using a determinant framework such as the TDF to understand behaviour is that it allows for a comprehensive investigation of potential drivers and mechanisms of complex behaviour, without the restrictions of narrower theories of behaviour which are often restricted to predefined causal mechanisms (French et al., 2012; Nilsen, 2015). The framework also maps directly onto the Behaviour Change Wheel as part of an integrated approach to intervention development (Atkins et al., 2017). Finally, adopting mixed methods further strengthened the empirical work; synthesising the results of objective measures of COM-B constructs in addition to spontaneously discussed behavioural drivers enhanced the rigour of our analysis (Borek et al., 2022; Carroll et al., 2017).

Limitations and Reflections

While this programme of research has many overall strengths, there are also a number of limitations; specific study limitations are detailed within their respective chapters. An over-arching limitation is that the interpretation of behavioural drivers in this body of work hinges on self-reported implementation, which may not reflect actual behaviour (Porcheret et al., 2014; Walton et al., 2020). The development process was limited by a lack of stakeholder involvement as recommended by the updated MRC framework, which may have compromised the analysis of the empirical work and selection of optimal intervention components (Duncan et al., 2020; Skivington et al., 2021). While the preliminary survey and qualitative findings were presented to a stakeholder panel of GPs and primary care professionals for

feedback early in the project lifecycle, the onset of the COVID-19 pandemic meant that meaningful, formal involvement was not feasible due to the work demands of these healthcare professionals. As such, the intervention requires further refinement through involvement activities at the feasibility and evaluation stages, which may be costly and time-consuming (Byrne, 2019; Fletcher et al., 2016; Turner et al., 2019). Involvement throughout the development stage may have uncovered salient barriers in the data potentially overlooked by the researchers, such as healthcare professional burnout and guideline overload (Bragard et al., 2015; Hall et al., 2016; Wilson & Langan-Martin, 2020).

Despite the use of analytical frameworks, the subjectivity involved in identifying behavioural drivers and intervention components may have resulted in bias (French et al., 2012). This could have contributed to automatic motivation surprisingly not being coded as a driver in the qualitative studies, despite its prominence in the quantitative survey results. This potentially requires further investigation due to the powerful influence that emotional drivers can exert on professional practice. For example, doubt and fear have previously been found to be important barriers to guideline implementation, particularly in conjunction with contextual barriers such as time and lack of training (Finch et al., 2020; Michie et al., 2007). This may be particularly relevant to practice for an emotionally-charged area of healthcare such as self-harm, since negative emotional staff responses to self-harm are commonplace despite the recommendation for respect and dignity underlining care for people who self-harm in the guidelines (Friedman et al., 2006; McGough et al., 2022). Frustration and therapeutic nihilism towards patients who self-harm leads to suboptimal patient management and compromised decision making (Mulhearn et al., 2021; Wand et al., 2018), so future work should aim to explore the potential relevance of emotional and habitual processes on practice in primary care.

Although the proposed intervention components are logically derived from the Behaviour Change Wheel framework, they require local-level tailoring to be implementable as part of a quality improvement intervention (Litchfield et al., 2018); the inclusion of a digital reference booklet containing a list of local organisations and self-help materials may be feasible within a single NHS Trust, but will present problems for wider scale-up efforts because the content of the booklet will be sensitive to the context of each primary care practice (Klaic et al., 2022). The

argument could also be made that developing short-form guidelines and recommendations may unintentionally encourage a potentially dangerous shift towards structured, tick-box assessments of risk in order to facilitate guideline adherence over personalised, comprehensive risk assessments, which is ultimately at odds with the NICE guidance for self-harm. Caution must be used to ensure a balance between evidence-based practice, and safe, high-quality care for people who self-harm (Girardi et al., 2021; House, 2022).

This links to a broader debate on the designation of guideline implementation as an intervention target, versus quality of care and patient safety outcomes (Gupta & Warner, 2007). There are valid concerns among implementation researchers and healthcare professionals that interventions which aim to facilitate evidence-based practice are based upon reductionist assumptions that implementation is a simple, linear process, where guideline ‘compliance’ guarantees best practice (Finch et al., 2020). In reality, following the guidelines may not always be in the best interests of the patient, depending on their individual circumstances (Woolf et al., 1999). The NICE guidelines potentially mischaracterise best practice as manualised and rule-based, instead of personalised and nuanced by attempting to force parsimony (Court et al., 2017; Spyridonidis & Calnan, 2011). Healthcare professional behaviour needs to be flexible to meet the unique needs of patients, which is arguably in conflict with the aims of implementation interventions that seek to facilitate adherence to a particular set of recommendations (Fletcher et al., 2016; Ogden, 2016; Peters et al., 2015). Best practice (or “*safe, good enough, effective practice*” as described by a GP participant in Chapter 6), should aim to balance a patient-centred approach to individual patients, within a broader safety culture at the organisational level to enable flexible decision making within an over-arching safeguarding strategy for self-harm (Lindgren et al., 2020). While clinical judgement surrounding self-harm can be flawed and inconsistent (Gardner et al., 2020) it is critical to recognise that care provision for self-harm is highly complex and unlikely to be improved by standardisation (Sinclair et al., 2011). As such, it is essential for interventions to ensure they allow for a degree of adaptation and tailoring to local contexts to allow for professional flexibility in real-life decision making (Craig et al., 2013).

In terms of personal reflections, I was offered the opportunity to work with an external company for initial data collection very early on in the project. In

hindsight, I can clearly see that the ensuing communication difficulties with the third party company and human error ultimately obfuscated and compromised some of the quantitative data that was collected. This created challenges for the analysis, because the data did not match all the scales and questions that were supplied to the company. In spite of this drawback, I learned a valuable lesson about authorising final versions of study materials, and developed the flexibility to work with the data that remained. I firmly believe that I could not have obtained such a large, representative sample by recruiting online or through personal networks as a first year PhD student, and am grateful that this additional funding could kick-start the project as a whole. I encountered similar issues with the qualitative data (this is elaborated on in Chapter 3). Although I can acknowledge that the external interviewers were highly trained and followed the topic guides, some remarks made by the interviewers in the audio files betrayed a lack of understanding about the topic area (i.e.: comments about self-harm that could be interpreted as stigmatising language), which may have negatively influenced the interviews. Furthermore, I feel that the potential for unstructured exploration was lost because I did not conduct any interviews myself. For example, it would have been fruitful to probe deeper into the motivational barriers that were mentioned by some participants, and I could potentially have revised the interview schedule as data collection progressed to iteratively incorporate new information. Again, while I can appreciate the efficiency and overall quality of the interviews, in future I will be inclined to take full ownership of any interview studies in order to identify threads of interest earlier. Lastly, involvement with healthcare professionals, and a potential pilot study were originally planned for the project. However, the demands of COVID-19 during the height of the pandemic meant that recruiting from primary care professionals was unfeasible at best, and unethical at worst. While this was a loss to the final outputs of the project, there is still scope to continue with this work in the future. I have learned to be satisfied with the research that I achieved during my PhD training despite the various failures and pivots that occurred throughout.

Recommendations for Policy and Practice

The main implication of the findings from this PhD study is that healthcare professionals who are involved in the care of people who self-harm could benefit

from a range of supporting mechanisms to ensure they are implementing evidence-based practice that adheres to the expectations of national guidelines. This is particularly the case for professionals working in non-mental health settings such as primary care, where there is an apparent need for more training related to self-harm, and mental health more broadly. In addition to increasing access to training, policymakers must improve the design of existing training provision to be accessible to generalist professionals (i.e.: not mental health specialists), but is also concordant with the recommended skill and competency frameworks for self-harm (Bell, 2021; National Collaborating Centre for Mental Health, 2018; Nursing and Midwifery Council, 2018). Investment is needed to develop novel solutions to address the lack of supporting resources for healthcare professionals that encounter patients who self-harm in primary care (Clark, 2011).

Ahead of the forthcoming update to the guidelines, there are opportunities to maximise engagement and awareness through policy-led dissemination strategies (Heyward-Chaplin et al., 2018; Kendrick et al., 2015). Publication of guidelines alone is insufficient to elicit sustained changes to healthcare professional behaviour, so further work must be done to effectively translate evidence into practice and overcome implementation barriers (Fischer et al., 2016; Nguyen et al., 2020). Potential strategies include designating primary care facilitators or educators to work with local primary care networks to aid the translation of the guidelines at a local level (Kitson, 2009). Adaptation of guidelines to a local context offers a means to make practical adjustments for implementation, and opportunities to audit and monitor their use in practice (Rowlands, 2004; Spyridonidis & Calnan, 2011; Wang et al., 2018). Furthermore, improvements are needed to the formatting of national guidance to enable healthcare professionals to engage with them meaningfully as a flexible tool; framing the guidance as requiring interpretation rather than a static list of rules may encourage professionals to incorporate the recommendations into routine practice (Forrest et al., 1996; Kitson, 2009). Reducing the volume of recommendations into a brief series may help to streamline access and reduce perceived barriers to entry for overwhelmed clinicians (Lowson et al., 2015). The use of plain English phrasing can lead to stronger intentions to implement the guidelines, perceived behavioural control over using them, and more positive attitudes (Michie & Lester, 2005; Michie & Johnston, 2004). However, action must

be taken swiftly to ensure sufficient engagement with the guidelines before their content becomes outdated (Baron et al., 2017).

Future Research Directions

There are a number of potential future directions that can be followed from this thesis. Future research should aim to build on the findings of this work by proceeding to the next stages of intervention development as specified in the MRC guidance (Craig et al., 2008; Skivington et al., 2021). As mentioned previously, the current intervention requires feasibility testing to gauge whether further refinements to the intervention components are warranted; this process could be enhanced with the involvement of stakeholders such as GPs, primary care nurses, and practice managers. Additionally, assessing the acceptability of the intervention among stakeholders using a robust measure the Theoretical Framework of Acceptability would be a prudent step to identify potential areas of refinement before pilot testing (Sekhon et al., 2017, 2022). A potential strategy to incorporate the views of stakeholders into the refinement of the intervention could be to use the RAND/UCLA appropriateness method to organise a series of development workshops to evaluate candidate behavioural drivers and intervention components (Fitch et al., 2001); this method has been used elsewhere to develop successful implementation interventions (Tyler et al., 2021). In addition to refining intervention components, RAND workshops could potentially be used to identify optimal outcome measures to assess the success of the intervention (Dziedzic et al., 2018; Shanbhag et al., 2018; Spyridonidis & Calnan, 2011).

Further development procedures such as stakeholder involvement, feasibility testing and piloting require significant time and investment, therefore it is important to conduct economic assessments to judge whether the costs of development could outweigh the potential benefits of the intervention (Sculpher, 2000; Smith & Hasan, 2020). Since the intervention development is an iterative and non-linear (O’Cathain, Croot, Duncan, et al., 2019), there is scope to seek out further clarifications on some areas of ambiguity found in our research. More data could be gathered to understand potential changes in drivers related to two key areas: the updated NICE guidance for self-harm (NICE, 2022b), and the long-term impact of COVID-19 on service provision (Mughal et al., 2021; Steeg et al., 2022). Both of these factors will have

far-reaching consequences for future self-harm care, so it would be timely to explore the impact of remote consulting and the new guidance on the shifting context of primary care before attempting to pilot an intervention to address the evidence-practice gap (Pilling & Price, 2006; Reifels et al., 2022).

Final Conclusions

The body of work presented suggests that UK healthcare professionals encounter a range of barriers and enablers to following national guidance for self-harm. The studies identified that non-mental health settings are particularly in need of supporting interventions, due to low knowledge of the guidelines and poor implementation. Primary care professionals such as GPs and practice nurses require multifaceted interventions that go beyond the provision of knowledge and skills, to navigate challenges in the environmental context of general practice, and to support their professional confidence to manage patients with complex mental health needs. This research improves upon traditional approaches to healthcare professional behaviour change by utilising a systematic, theory-based approach to understand behavioural drivers and develop a practical intervention strategy. Our recommendations indicate that education and training interventions are insufficient to change behaviour; policymakers and intervention designers must pursue multifaceted implementation strategies to support healthcare professionals' capabilities, opportunities, and motivations using appropriate intervention functions and behaviour change techniques for sustained adherence to national self-harm guidance. Future research should aim to refine the proposed intervention with involvement from primary care stakeholders to determine whether the intervention is feasible and acceptable prior to designing a pilot study.

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Appendices

Appendix A: Ethical Approval letter



Research Governance, Ethics and Integrity
2nd Floor Christie Building
The University of Manchester
Oxford Road
Manchester
M13 9PL
Tel: 0161 275 2206/2674
Email: research.ethics@manchester.ac.uk

Ref: 2019-0456-0504
26/02/2019

Dear Ms Jessica Leather, Prof Christopher Arden amritage

Study Title: Healthcare Practitioners' Experiences of Patients at Risk of Self-Harm

Proportionate UREC

I write to thank you for submitting the final version of your documents for your project to the Committee on 25/02/2019 12:33. I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form and supporting documentation as submitted and approved by the Committee.

Please see below for a table of the title, version numbers and dates of all the final approved documents for your project:

Document Type	File Name	Date	Version
Additional docs	2018_Global EU Data Protection Policy	30/11/2018	2
Additional docs	Interview guide draft 1	14/01/2019	1
Additional docs	Consent form V1 Interview	14/01/2019	1
Additional docs	19_0130 University of Manchester_Managing self-harm v2.0	31/01/2019	2
Additional docs	Yougov survey Draft 5.4	13/02/2019	5.4
Data Management Plan	Data Management Plan Feb 19 V2	13/02/2019	2
Participant Information Sheet	Participant Information Sheet V2 Follow-up interview	14/02/2019	2
Advertisement	Invitation email	14/02/2019	2
Participant Information Sheet	Participant Information Sheet V3 survey	25/02/2019	3
Additional docs	Letter 250219 with notes	25/02/2019	1

This approval is effective for a period of five years however please note that it is only valid for the specifications of the research project as outlined in the approved documentation set. If the project continues beyond the 5 year period or if you wish to propose any changes to the methodology or any other specifics within the project, an application to seek an amendment must be submitted for review. Failure to do so could invalidate the insurance and constitute research misconduct.

You are reminded that, in accordance with University policy, any data carrying personal identifiers must be encrypted when not held on a secure university computer or kept securely as a hard copy in a location which is accessible only to those involved with the research.

Reporting Requirements:

You are required to report to us the following:

1. [Amendments](#): Guidance on what constitutes an amendment
2. [Amendments](#): How to submit an amendment in the ERM system
3. [Ethics Breaches and adverse events](#)
4. [Data breaches](#)
5. [Notification of progress/end of the study](#)

Feedback

It is our aim to provide a timely and efficient service that ensures transparent, professional and proportionate ethical review of research with consistent outcomes, which is supported by clear, accessible guidance and training for applicants and committees. In order to assist us with our aim, we would be grateful if you would give your view of the service that you have received from us by completing a **UREC Feedback Form**. Instructions for completing this can be found in your approval email.

We wish you every success with the research.

Yours sincerely,

Mrs Genevieve Pridham

Secretary to Proportionate UREC

Appendix B: Study Invitation Text

Note: Participants will be recruited from healthcare professionals signed up to YouGov's panel. YouGov Panel members are regularly invited to take part in surveys, and this invitation email has been adapted from their existing template.

Dear X,

You are invited to take part in a study being run by researchers from the Division of Psychology and Mental Health at the University of Manchester. Before you decide, it is important for you to understand what it will involve. Please take time to read this introduction.

What is the aim of the study?

We want to understand healthcare professionals' experiences of caring for patients who are at risk of self-harm.

What types of participants are being sought?

We are seeking a wide range of views from healthcare practitioners in all professions.

What will you be asked to do?

You will be asked questions about your personal demographic characteristics, your previous experiences encountering patients who are at risk of self-harm, and what training, resources and guidelines have been made available to you. The survey should take no longer than 15 minutes to complete and you will receive 50 points for taking part. Please be aware that no further participation is required.

Can you change your mind and withdraw from the project?

Participation is voluntary so you can choose to opt out at any time.

What data or information will be collected and what use will be made of it?

The research team will have access to responses to the survey but will not be able to trace responses back to individuals, so participants can be assured of confidentiality and anonymity. The results will be published and you are welcome to request a copy of these, using the contact details provided below.

What if participants have any questions?

If you have any questions or would like to discuss the study further, either now or in the future, feel free to contact Jessica Leather using the details below:

Jessica Leather

Psychology and Mental Health

H22, Coupland Building I, Coupland Street, The University of Manchester, M15 6FH

Email: Jessica.leather@postgrad.manchester.ac.uk

Please note that this study has been approved by the ethics committee at the University of Manchester.

Appendix C: Participant Information Sheet (Survey)



The University of Manchester

A Survey of Healthcare Professionals' Experiences Encountering Patients who are At Risk of Self-Harm

Participant Information Sheet (PIS)

This PIS should be read in conjunction with [The University privacy notice](#).

You are being invited to take part in a research study to understand healthcare professionals' experiences encountering patients who are at risk of self-harm. Before you decide whether to take part, it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for taking the time to read this.

Who will conduct the research?

This research is being conducted by Jessica Leather from the Division of Psychology & Mental Health at the University of Manchester. The data is being collected by YouGov.

What is the purpose of the research?

This survey aims to understand healthcare professionals' experiences of encountering patients who are at risk of self-harm. It aims to identify how many healthcare professionals encounter patients who may self-harm, and what areas of the healthcare system they work in. We want to know what training and resources are available to different professionals, in order to identify barriers and facilitators to self-harm prevention.

Why have I been chosen?

You have been invited because you are a member of YouGov Panel.

What would I be asked to do if I took part?

You will be asked questions about your personal demographic characteristics, your experiences encountering patients who are at risk of self-harm, and what training and resources have been made available to you. The survey should take no longer than 15 minutes to complete and you will receive 50 points for your participation. Please be aware that no further participation is required. There are no anticipated risks involved with taking part.

What will happen to my personal information?

You will be asked questions about your demographic characteristics and your professional role.

Only the research team will have access to responses to the survey, but will not be able to trace responses back to individuals, so participants can be assured of confidentiality and anonymity. The results will be published and you are welcome to request a copy of these, using the contact details provided below.

We are collecting and storing this personal information in accordance with the General Data Protection Regulation (GDPR) and Data Protection Act 2018 which legislate to protect your personal information. The legal basis upon which we are using your personal information is "public interest task" and "for research purposes" if sensitive information is collected. For more information about the way we process your personal information and comply with data protection law please see our [Privacy Notice for Research Participants](#).

YouGov, as Data Controller for this project, takes responsibility for the protection of the personal information that this study is collecting about you. In order to comply with the legal obligations to protect your personal data YouGov has safeguards in place such as policies and procedures. All researchers are appropriately trained and your data will be looked after in the following way:

Only YouGov Panel will have access to your identifiable information, that is data which could identify you, but this will not be shared with the university research team. Your response will be entirely anonymised before being passed to the research team

in a dataset. This data will be transferred immediately from YouGov and stored on a password-protected university computer during analysis. After completion of the project, the data will be retained long-term by the university for 5 years in the University's Research Data Storage service.

You have a number of rights under data protection law regarding your personal information. For example, you can request a copy of the information we hold about you. This is known as a Subject Access Request. If you would like to know more about your different rights, please consult our [privacy notice for research](#) and if you wish to contact us about your data protection rights, please email dataprotection@manchester.ac.uk or write to The Information Governance Office, Christie Building, University of Manchester, Oxford Road, M13 9PL. at the University and we will guide you through the process of exercising your rights.

You also have a right to complain to the [Information Commissioner's Office](#), Tel 0303 123 1113

Will my participation in the study be confidential?

Your participation in the study will be kept confidential to the study team and those with access to your personal information as listed above.

What happens if I do not want to take part or if I change my mind?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given a copy of this information sheet to keep and be asked to complete a consent form at the start of the survey. If you decide to take part you are still free to withdraw at any time without giving a reason and without detriment to yourself. However, it will not be possible to remove your data from the project once it has been anonymised and forms part of the dataset as we will not be able to identify your specific data. This does not affect your data protection rights.

Will my data be used for future research?

When you agree to take part in a research study, the information about you may be provided to researchers running other research studies in this organisation. The future research should not be incompatible with this research project and will concern healthcare practitioner experiences of caring for patients at risk of self-harm. These organisations may be universities, NHS organisations or companies involved in health and care research in this country or abroad. Your information will only be used by organisations and researchers to conduct research in accordance with the [UK Policy Framework for Health and Social Care Research](#).

This information will not identify you and will not be combined with other information in a way that could identify you. The information will only be used for the purpose of health and care research, and cannot be used to contact you regarding any other matter or to affect your care. It will not be used to make decisions about future services available to you.

Will I be paid for participating in the research?

You will receive compensation for your participation with x amount of YouGov points.

What is the duration of the research?

The survey should take no longer than 15 minutes to complete.

Where will the research be conducted?

You can complete the online survey at a time and place to suit you.

Will the outcomes of the research be published?

The results of this research are expected to be published in a journal article, and you will be able to request a copy from the researcher if you wish.

Who has reviewed the research project?

The project has been reviewed by the University of Manchester Research Ethics Committee and has been approved by the Health Research Authority.

What if I want to make a complaint?

Minor complaints

If you have a minor complaint then you need to contact the researcher(s) in the first instance.

EMAIL: JESSICA.LEATHER@POSTGRAD.MANCHESTER.AC.UK; TELEPHONE: 01613060444

Formal Complaints

If you wish to make a formal complaint or if you are not satisfied with the response you have gained from the researchers in the first instance then please contact

The Research Governance and Integrity Manager, Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL, by emailing: research.complaints@manchester.ac.uk or by telephoning 0161 275 2674.

Where can I find support?

If you feel affected or distressed by the content of the survey, the following resources can be used to find information or advice on self-harm. You should make an appointment with your GP if you require further support.

Selfharm UK Web: selfharm.co.uk

Harmless Web: harmless.org.uk

MIND Tel: 0300 123 3393 Web: mind.org.uk

Samaritans Tel: 116 123 Web: samaritans.org

What Do I Do Now?

If you have any queries about the study or if you are interested in taking part then please contact the researcher(s).

EMAIL: JESSICA.LEATHER@POSTGRAD.MANCHESTER.AC.UK; TELEPHONE: 0161 306 0444

This Project Has Been Approved by the University of Manchester's Research Ethics Committee [Ref: 2019-5456-9504]

Appendix D: YouGov Survey

Healthcare professionals' experiences of patients who are at risk of self-harm

We are interested in knowing about the situations in which healthcare professionals might encounter patients who they think are at risk of self-harm. We want to hear about your experiences, and what training or tools you have utilised to meet the needs of these patients.

This questionnaire will take approximately 15 minutes to complete.

Please ensure you have read the accompanying information sheet before answering any questions. This document explains why we are collecting this information. [*Link to PI sheet*](#)

Information concerning YouGov's data privacy policy can be found here [*link*](#)

Consent

By completing this questionnaire, you are confirming that:

- You have read the participant information sheet
- You have received enough information about the study
- You agree to take part in the study

You understand that you do not need to take part in the study and that you are free to withdraw: (a) at any time, (b) without having to give a reason for withdrawing, and (c) without detriment to you.

About You

1. Gender

[Male/Female/Prefer not to say]

2. Age

[Drop down menu]

3. How would you describe your ethnicity?

White British

White Irish

Any other white background

Mixed – white and black Caribbean

Mixed – white and black African

Mixed – white and Asian

Any other mixed background

Asian or Asian British - Indian

Asian or Asian British – Pakistani

Asian or Asian British – Bangladeshi

Any other Asian or Asian British background

Black or black British – Caribbean

Black or black British – African

Any other black or black British background

Chinese

Other (please specify) _____

4. Country of employment

[England/Northern Ireland/Scotland/Wales]

[Q101] In which, if any, of the following settings do you work most frequently?

- NHS Acute Care
- NHS Tertiary Care
- NHS Community Care
- NHS Primary Care
- Independent
- Homes (community settings)
- Schools
- Voluntary organisation
- Other (please state) _____

[TS_Health_Occupation] {single columns=2} Which ONE of the following BEST describes your occupation? If none of the options below explain what you do well, please select 'other role/ profession'.

- <1> Doctor
- <2> Dentist
- <3> Dental technician/ technologist
- <4> Dental Hygienist
- <5> Dental Nurse
- <6> Dental Therapist
- <7> Pharmacist
- <8> Pharmacologist
- <9> Pharmacy Technician
- <10> Pharmacy assistant/ Dispensing assistant
- <11> Optometrist/ Optician
- <12> Orthoptist
- <13> Dispensing Optician
- <14> Nurse
- <15> Midwife
- <16> Radiographer
- <17> Paramedic
- <18> Emergency Care Practitioner
- <19> Emergency Care Assistant
- <20> Ambulance Technician
- <21> Ambulance Control Staff (e.g. call handler, dispatchers, PTS controllers)
- <22> Patient Transport Service (e.g. ambulance driver, support staff)
- <23> Podiatrist/ Chiropodist
- <24> Occupational therapist

- <25> Physiotherapist
- <26> Counsellor
- <27> Psychologist
- <28> Psychotherapist
- <29> Other Therapist
- <30> Complementary medicine
- <31> Health Care Assistant
- <32> Practice Manager
- <33> Health Service Manager
- <34> Occupational hygienist/ health and safety officer
- <35> Environmental health officer
- <36> Medical Secretary
- <37> Receptionist
- <38> Medical laboratory scientists/ technicians
- <39> Other Scientist
- <40> Analyst
- <41> Medical related scientific services
- <42> Mental health worker
- <43> Health Visitor
- <44> Advice worker
- <45> Youth worker
- <46> Support Worker
- <47> Social Worker
- <48> Care worker
- <49> Dietician/ Nutritionist
- <50> Fitness Instructor
- <51> Other role/ profession

[Organisation_type] {single} Which, if any, of the following BEST describes where you work?

- <1>NHS hospital
- <2>Private hospital/ clinic
- <3>GP surgery/ health centre
- <4>Walk-in centre
- <5>Ambulance trust/ service
- <6>Pharmacy
- <7>Dentist
- <8>Opticians

<13> Clinical commissioning group

<14> Mental health trust / service

<9>Care home

<10>Community services

<11>Local Authority

<101>School

<102>University

<12>Other [Organisation_type_other] {open}

[TS_Contact] {single} Do you have face-to-face contact with patients / service users as part of your job?

<1>Yes, frequently

<2>Yes, occasionally

<3>No

[Q107] How long have you been practicing as a [INSERT CHOSEN RESPONSE FROM PREVIOUS QUESTION]?

<1> Still qualifying/in first year of practice

<2> 1-3 years

<3> 4 – 6 years

<4> 7-10 years

<5> 11-15 years

<6> 16-20 years

<7> over 20 years

[Q109] To what extent do you agree or disagree with the following statements?

9. [Q109_1] When I feel threatened or anxious, I find myself thinking about my strengths

Strongly disagree 1 2 3 4 Strongly agree

10. [Q109_2] When I feel threatened or anxious, I find myself thinking about my values

Strongly disagree 1 2 3 4 Strongly agree

8. [P1] If someone has self-harmed, I tend to think of them as...

Stupid	1	2	3	4	5	6	7	Intelligent		
Sheltered life experience			1	2	3	4	5	6	7	Worldly/varied
life experience										
Insecure	1	2	3	4	5	6	7	Self-confident		
Needs support/incapable			1	2	3	4	5	6	7	
Independent/capable										
Cold	1	2	3	4	5	6	7	Warm		
Unfriendly	1	2	3	4	5	6	7	Friendly		
Unsuccessful		1	2	3	4	5	6	7	Successful	

[A3] What do you think are the signs that a patient is at risk of self-harm?

[Comment box]

Your experiences encountering patients who are at risk of self-harm

What is the definition of self-harm?

Intentional self-poisoning or self-injury, irrespective of motive or the extent of suicidal intent

A patient at risk of self-harm refers to any patient you encounter who you think might harm themselves, including patients who have a prior history of self-harm, and patients who have never self-harmed before.

[A1] Of the patients you see in a typical month, what proportion do you think might be at risk of self-harm?

[Sliding Scale 0-100%]

[A2] And of the patients you see in a typical month, what proportion present with actual self-harm?

[Sliding Scale 0-100%]

[A4 if A1>0%] How do you typically respond when you meet a patient you think might be at risk of self-harm?

[Comment box]

[A6 if A2>0%] How do you typically respond when you meet a patient who has self-harmed?

[Comment box]

[A5a if A2a==1] Have you ever referred patients you think are at risk of self-harm for a low-intensity or brief psychosocial intervention (such as Cognitive-Behavioural Therapy)?

[Yes/No]

[A5b if A2a==1] Have you ever referred patients who have self-harmed for a low-intensity or brief psychosocial intervention (such as Cognitive-Behavioural Therapy)?

[Yes/No] Can't recall

[A7] To what extent do you agree or disagree with the following statements?

11. [if A1>0% OR A2>0%] I fully listen to self-harming patients' problems and experiences

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

12. There is no way of reducing self-harm behaviours

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

13. Patients who self-harm are usually trying to get sympathy from others

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

14. Self-harming patients have a great need for acceptance

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

15. Patients should be allowed to self-harm in a safe environment

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

16. Self-harm may be a form of reassurance for the patient that they are really alive and human

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Resources/Training available to you

1. [B1] Have you ever taken part in training for the assessment and management of self-harm?

[Yes/No]

If Yes:

[B1a if B1==1]: How recent was this?

Within the last 12 months

1 to 5 years ago

6 to 10 years ago

More than 10 years ago

Can't remember

1b. [B2 if B1==1] Did your training sufficiently prepare you to assess and manage self-harm?

[Yes/No/Don't Know]

1c. [B3 if B1==1] What do you think could be improved about your training to better equip you to assess and manage self-harm?

[Comment box]

2. [B4 if A2a==1] 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? If yes, please describe what you have used.

[Yes/No/Don't Know]

[Comment box]

For the following questions, by 'intervention' we mean an activity designed to change a specific behaviour pattern.

[B5] Would you find it useful to have an intervention that you could use with a patient who had self-harmed?

[Yes/No/Don't Know]

4. [B6] Is there anything that would better equip you to use an intervention with a patient who had self-harmed?

[Comment box]

5. [B7] What might prevent you from using an intervention with a patient who had self-harmed?

[Comment box]

Your experiences assessing and managing patients who are at risk of self-harm

1. [C1] How familiar are you with the NICE Guidelines for the management and prevention of self-harm?

2. <1> Know very well
3. <2> Know a fair amount
4. <3> Know just a little
5. <4> Heard of, know almost nothing about
6. <5> Never heard of

NICE guidelines for self-harm recommend that any healthcare professionals who may have to assess and/or treat people who have self-harmed should ensure that they are properly trained and competent to undertake assessment and treatment as necessary.

Physical treatment: Healthcare professionals should urgently establish the likely physical risk, and the person's emotional and mental state, in an atmosphere of respect and understanding. Patients should be referred for urgent treatment in an emergency department if assessment suggests there is a significant risk.

Risk assessment: Including identification of the main clinical and demographic features and psychological characteristics known to be associated with risk, in particular depression, hopelessness and continuing suicidal intent.

Needs assessment: This should be comprehensive, and include evaluation of the social, psychological and motivational factors specific to the act of self-harm, current intent and hopelessness. Additionally, healthcare professionals should determine a person's mental capacity, their willingness to remain for further assessment, their level of distress and the possible presence of mental illness.

Care plan: Following assessment and immediate treatment, the outcome of the risk and needs assessment, and full details of the treatment provided, should be forwarded to the appropriate secondary mental health team at the earliest opportunity. Patients and the assessor should both read through the written assessment of needs, wherever possible, to mutually agree the assessment

7. [C2] If you saw a patient in the next working week who had self-harmed or you thought was at risk of self-harm, with what proportion would you have the PHYSICAL opportunity to implement the NICE guidelines for assessing and managing self-harm

What is PHYSICAL opportunity?

The environment provides the opportunity to engage in the activity concerned.

(e.g., I have sufficient time to implement the NICE guidelines; I have the necessary materials to implement the guidelines; I have reminders about the guidelines)

[Sliding Scale 0-100%]

8. [C3] If you saw a patient in the next working week who had self-harmed or you thought was at risk of self-harm, with what proportion would you have the SOCIAL opportunity to implement the NICE guidelines for assessing and managing self-harm

What is SOCIAL opportunity?

Interpersonal influences, social cues and cultural norms provide the opportunity to engage in the activity concerned.

(e.g., other people I work with implement the NICE guidelines, my colleagues support me in implementing the guidelines)

[Sliding Scale 0-100%]

[C4] To what extent do you agree or disagree with the following statements?

3. [C4_1] I am motivated to implement the NICE guidelines for assessing and managing self-harm.

What is motivation?

Conscious planning and evaluations (beliefs about what is good and bad).

(e.g., I have the desire to implement NICE guidelines, I feel the need to implement the guidelines)

Strongly
disagree

Strongly
Agree

Please rate

0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. [C4_2] Implementing the NICE guidelines for assessing and managing self-harm is something I do automatically.

Automatic motivation involves doing something without thinking or having to consciously remember.

(e.g., implementing the NICE guidelines is something I do before I realise I'm doing it)

Strongly
disagree

Strongly
Agree

Please rate

0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. [C4_3] I am PHYSICALLY able to implement the NICE guidelines for assessing and managing self-harm.

What is physical capability?

Having the physical skill, strength or stamina to engage in the activity concerned.

(e.g., I have sufficient physical stamina to implement the NICE guidelines, I can overcome disability to implement the guidelines, I have sufficient physical skills to implement the guidelines)

Strongly
disagree

Strongly
Agree

Please rate

0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. [C4_4] I am PSYCHOLOGICALLY able to implement the NICE guidelines for assessing and managing self-harm.

What is psychological capability?

Knowledge and/or psychological skills, strength or stamina to engage in the necessary thought processes for the activity concerned.

(e.g., I have the knowledge to implement NICE guidelines, I have the mental strength and stamina needed to implement the NICE guidelines, I have the cognitive and interpersonal skills to implement the NICE guidelines).

Strongly
disagree

Strongly
Agree

Please rate

1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. [C5 if A1>0% OR A2>0%] 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?

[Sliding Scale 0-100%]

[C6] To what extent do you agree or disagree that 'I trust my clinical judgment over the NICE guidelines.'

	1	2	3	4	5	6	7	
Strongly disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree

9. [C7] Compared with the average health care professional in your field at the same level as you, how much do you know about the assessment and management of self-harm?

	1	2	3	4	5	6	7	
Strongly disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree

Don't know

10. [C8] Please tell us what things would most help you to assess and manage the care needs of patients who have self-harmed or who are at risk of self-harm in future?

[Comment box]

11. [C9] In the 2018 Autumn Budget the government announced additional funding for mental health services in England. Some of the proposed measures include comprehensive mental health support in A&E, specialist mental health ambulances, a 24/7 mental health crisis hotline and specialist teams for children and young people. Please tell us what you think about these measures, and how they might affect your role in the future.

[Comment box]

Appendix E: Participant Information Sheet (Interview)



The University of Manchester

Exploring Healthcare Professionals' Experiences of Encountering Patients who are At Risk of Self-Harm through Semi-Structured Telephone Interviews

Participant Information Sheet (PIS)

This PIS should be read in conjunction with [The University privacy notice](#)

You are being invited to take part in a research study to explore healthcare professionals' experiences when encountering patients who are at risk of self-harm. Before you decide whether to take part, it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for taking the time to read this.

Who will conduct the research?

This research is being conducted by Jessica Leather from the Division of Psychology & Mental Health at the University of Manchester. The data is being collected by YouGov.

What is the purpose of the research?

This project is expanding on previous survey data about healthcare professionals' experiences of caring for patients who are at risk of self-harm. We aim to find out more about the barriers and facilitators of self-harm prevention for different healthcare professionals. We also want to give healthcare professionals the opportunity to give their opinions on potential solutions or tools that may help them.

Why have I been chosen?

You have been invited because you are a member of YouGov Panel.

What would I be asked to do if I took part?

A researcher from YouGov will arrange a telephone interview at a time that is suitable for you. You will be asked to describe your professional role, and discuss what opportunities you have to prevent self-harm in your role. We will also ask about what difficulties you face trying to prevent self-harm, and how you think these could be combatted. The interview will take no more than 40 minutes and you will receive £50 in amazon vouchers for your participation. Please be aware that no further participation is required. There are no anticipated risks involved with taking part.

What will happen to my personal information?

In order to undertake the research project, we will only collect data about your professional role. The telephone interview will be recorded with an encrypted recording device. The audio recording of the interview will be transcribed and anonymised by YouGov staff. This anonymised transcript will then be analysed by the researchers to find common themes across the interviews. Only the research team will have access to the transcripts, and will not be able to trace the transcript back to an individual, so participants can be assured of confidentiality and anonymity. The results will be published and you are welcome to request a copy of these, using the contact details provided below.

We are collecting and storing this personal information in accordance with the General Data Protection Regulation (GDPR) and Data Protection Act 2018 which legislate to protect your personal information. The legal basis upon which we are using your personal information is "public interest task" and "for research purposes" if sensitive information is collected. For more information about the way we process your personal information and comply with data protection law please see our [Privacy Notice for Research Participants](#).

YouGov, as Data Controller for this project, takes responsibility for the protection of the personal information that this study is collecting about you. In order to comply with the legal obligations to protect your personal data YouGov has safeguards in

place such as policies and procedures. All researchers are appropriately trained and your data will be looked after in the following way:

Only YouGov Panel will have access to your identifiable information, that is data which could identify you, but this will not be shared with the university research team. Your response will be entirely anonymised before being passed to the research team in a dataset. This data will be transferred immediately from YouGov and stored on a password-protected university computer during analysis. After completion of the project, the data will be retained long-term by the university for 5 years in the University's Research Data Storage service.

You have a number of rights under data protection law regarding your personal information. For example, you can request a copy of the information we hold about you. This is known as a Subject Access Request. If you would like to know more about your different rights, please consult our [privacy notice for research](#) and if you wish to contact us about your data protection rights, please email dataprotection@manchester.ac.uk or write to The Information Governance Office, Christie Building, University of Manchester, Oxford Road, M13 9PL. at the University and we will guide you through the process of exercising your rights.

You also have a right to complain to the [Information Commissioner's Office](#), Tel 0303 123 1113

Will my participation in the study be confidential?

Your participation in the study will be kept confidential to the study team and those with access to your personal information as listed above. Recorded audio from the telephone interviews will be used by YouGov staff to create transcripts. No recordings will be shared with the researchers at the University of Manchester. All personal identifying information will be removed from the transcripts before providing them to the researchers at the University of Manchester. The audio recordings will be stored and encrypted by YouGov only, and transcripts will be stored in the University's secure online Research Data Storage service.

What happens if I do not want to take part or if I change my mind?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign and return the accompanying consent form. Since recording the audio of the telephone interviews is an essential part of data collection, if you do not want your voice to be recorded then you will not be able to participate. However, you should feel comfortable with the recording process at all times, and you are free to stop the interview and the recording at any time. If you decide to take part you are still free to withdraw at any time without giving a reason and without detriment to yourself. However, it will not be possible to remove your data from the project once it has been anonymised and forms part of the dataset as we will not be able to identify your specific data. This does not affect your data protection rights.

Will my data be used for future research?

When you agree to take part in a research study, the information about you may be provided to researchers running other research studies in this organisation. The future research should not be incompatible with this research project and will concern healthcare practitioner experiences of caring for patients at risk of self-harm. These organisations may be universities, NHS organisations or companies involved in health and care research in this country or abroad. Your information will only be used by organisations and researchers to conduct research in accordance with the [UK Policy Framework for Health and Social Care Research](#).

This information will not identify you and will not be combined with other information in a way that could identify you. The information will only be used for the purpose of health and care research, and cannot be used to contact you regarding any other matter or to affect your care. It will not be used to make decisions about future services available to you.

Will I be paid for participating in the research?

You will receive compensation for your participation with x amount of YouGov points.

What is the duration of the research?

After agreeing to take part and returning your consent form, you will be invited for one 30-minute telephone interview. Due to the nature of semi-structured interviews, it may last between 20 and 40 minutes depending on the length of your responses.

Where will the research be conducted?

You can participate in the telephone interview at a time and place to suit you.

Will the outcomes of the research be published?

The results of this research are expected to be published in a journal article, and you will be able to request a copy from the researcher if you wish.

Who has reviewed the research project?

The project has been reviewed by the University of Manchester Research Ethics Committee and has been approved by the Health Research Authority.

What if I want to make a complaint?**Minor complaints**

If you have a minor complaint then you need to contact the researcher(s) in the first instance.

EMAIL: JESSICA.LEATHER@POSTGRAD.MANCHESTER.AC.UK; TELEPHONE: 0161 306 0444

Formal Complaints

If you wish to make a formal complaint or if you are not satisfied with the response you have gained from the researchers in the first instance then please contact

The Research Governance and Integrity Manager, Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL, by emailing: research.complaints@manchester.ac.uk or by telephoning 0161 275 2674.

Where can I find support?

If you feel affected or distressed by the content of the interview, the following resources can be used to find information or advice on self-harm. You should make an appointment with your GP if you require further support.

Selfharm UK Web: selfharm.co.uk

Harmless Web: harmless.org.uk

MIND Tel: 0300 123 3393 Web: mind.org.uk

Samaritans Tel: 116 123 Web: samaritans.org

What Do I Do Now?

If you have any queries about the study or if you are interested in taking part then please contact the researcher(s).

EMAIL: JESSICA.LEATHER@POSTGRAD.MANCHESTER.AC.UK; TELEPHONE: 0161 306 0444

This Project Has Been Approved by the University of Manchester's Research Ethics Committee [Ref: 2019-5456-9504]

Appendix F: Information for the Interviewer Guide

Interview Topic Guide developed by University of Manchester for YouGov

May / June 2019

Information for the Interviewer to read before the interview

Definitions:

- **Self-harm:** Intentional self-poisoning or self-injury, *irrespective of motive* or the *extent of suicidal intent*. Self-harm is an expression of personal distress, not an illness, and there are many varied reasons for a person to harm him or herself.
- **Patient *at risk* of self-harm:** Any patient who you think *might harm themselves*, including patients who have a *prior history* of self-harm, and patients who have *never self-harmed before*.
- **Protocols:** *In addition* to the national guidelines, individual practices may have developed their *own protocols* to follow when a patient presents with self-harm.
- **Tools:** Any *resource* that healthcare professionals can utilise when encountering a patient at risk of self-harm. This includes any *risk assessment forms, care pathways/flowcharts, or a brief intervention*.
- **Refer a patient at risk of self-harm:** If there is not a *suitably qualified/trained* healthcare professional *onsite* to conduct a comprehensive psychosocial assessment, the patient must be referred to a mental health specialist for assessment. Following psychosocial assessment, a patient may need to be *referred for further treatment* (such as a psychosocial intervention).
- **Psychosocial assessment:** A comprehensive assessment including an *evaluation of needs and risk*. The assessment of needs is designed to *identify psychological and environmental (social) factors* that *might explain an act of self-harm*.
- **Psychosocial intervention:** An *activity or therapy* designed to change specific thoughts and behaviours, such as cognitive behavioural therapy (CBT) or dialectical behavioural therapy (DBT).
- **NICE:** The National Institute for Health and Care Excellence (NICE) is a non-departmental public body that *provides national guidance and advice* to improve health and social care in England.
- **NICE Guidelines:** *Evidence-based recommendations* on a wide range of topics, from preventing and managing specific conditions, improving health, and managing medicines in different settings, to providing social care and support. They aim to promote *individualised care and integrated care*.

Outline of the guidelines for primary care:

NICE Guidelines for self-harm: The NICE guidelines for self-harm are split into short-term and long-term management for all patients aged 8 years old and older. This guide refers to *short-term management* of self-harm, specifically for professionals working in *primary care*. The guidelines recommend that any healthcare professionals who *may have to assess and/or treat* people who have self-harmed should ensure that they are *properly trained and competent to undertake assessment and treatment as necessary*.

1. When a patient presents in primary care following an episode of self-harm, healthcare professionals should *establish the likely physical risk*, and the person's *emotional and mental state*, in an atmosphere of respect and understanding. Patients should be referred for urgent treatment in an emergency department if assessment suggests there is a significant risk.
2. Risk assessment should include *identification of the main clinical and demographic features* and *psychological characteristics known to be associated with risk*, in particular depression, hopelessness and continuing suicidal intent.
3. If urgent referral to the emergency department is not necessary, a *risk and needs (psychosocial)* assessment should be undertaken to assess the case for urgent *referral to secondary mental health services*. This should be comprehensive and include evaluation of the *social, psychological and motivational factors specific to the act of self-harm*, current intent and hopelessness, as well as a full mental health and social needs assessment.
4. Following assessment and treatment of self-harm in primary care, the outcome of the risk and needs assessment, and full details of the treatment provided, should be *forwarded to the appropriate secondary mental health team* at the earliest opportunity. Patients and the assessor should read through the assessment where possible, to *agree the assessment and care plan*.

Appendix G: Interview Schedule

Interview Topic Guide developed by University of Manchester for YouGov

May / June 2019

Interview Topic Guide (30 – 45mins)

Intro text – standard YG text (3 mins)

- Hello and thank you for taking part in this interview today, which is being conducted by YouGov on behalf the University of Manchester.
- Remind them that the interview will be made anonymous and we follow the GDPR. Explain that their responses would only be reported via their job role and not their name
- Depths will be audio recorded for note-taking purposes. Are you happy for us to share the recording with the research team at Manchester University (Psychology Dept)?
- There are no right or wrong answers, please try to be as open and honest as possible. You may refuse to answer any question at any time.

Please start by introducing yourself – 1st name and role / main responsibilities.

- How long have you been in your current role?
- How long have you been working in primary care in total?

Question
Your role and experience of self-harm (15 mins)
<p>1. What role do you think a <health professional in primary care> plays in assessing or managing patients who are at risk of self-harm?</p> <ul style="list-style-type: none"> • Have you ever encountered a patient you thought was at risk of self-harm? • How often do you typically encounter patients who are at risk of self-harm?
<p>2. Do you see self-harm prevention as something you are personally responsible for? Why or why not?</p> <ul style="list-style-type: none"> • To what extent is it a priority for you?
<p>3. Do you have any protocols around the assessment and management of self in your place of work?</p> <ul style="list-style-type: none"> • If not, what are your views on this? Why do you think you do not have any formal protocols? • If so, during your time as a <health professional in primary care>, how has the assessment and management of self-harm in your practice/place of work changed if at all? • Have protocols changed over time? If so, how?
<p>4. Can you tell me about any training you have received for assessing or managing self-harm? E.g. type of training, provider and method e.g. f2f or online</p> <ul style="list-style-type: none"> • Did you find it useful for encountering patients at risk of self-harm? Please explain your reasons • Is there anything you would change about your training? <p><i>If no training:</i> What would you expect from training to prepare you for encounters with patients at risk of self-harm?</p>
<p>5. Are you aware of any tools you might use when encountering a patient who is at risk of self-harm?</p> <ul style="list-style-type: none"> • What is the tool? How would it help you? • Could it be improved? If so, how? <p><i>If no tools used:</i> Is there anything you can think of that would help you to assess and manage a patient at risk of self-harm?</p>
<p>6. Please talk me through what you would typically do if you encountered a patient who you thought was at risk of self-harm.</p>

	<ul style="list-style-type: none"> If relevant, please describe a past encounter (we understand that this needs to be kept anonymous)
7.	<p>What do you think you would do if you encountered a patient who had actually self-harmed?</p> <ul style="list-style-type: none"> If relevant, you can describe a past encounter (we understand that this needs to be kept anonymous)
8.	<p>Please can you tell me about what you would do if you thought you needed to refer a patient who was at risk of self-harm, either for a psychosocial assessment or for a psychosocial intervention? (e.g. <i>cognitive behavioural therapy</i>)</p> <ul style="list-style-type: none"> Would you expect to encounter any difficulties with the process? If so, what type of difficulties?
Role responsibility for implementing NICE guidelines for self-harm (7-10 mins)	
9.	<p>Before you took part in this research were you aware of the NICE guidelines for self-harm in primary care? If so, how? E.g. at University, training, current workplace etc</p>
10.	<p>If you were aware of the guidelines: Would you say that generally you are in a habit of implementing the NICE guidelines for self-harm? Why or why not?</p> <ul style="list-style-type: none"> What would be helpful in developing a routine/habit of implementing the NICE guidelines?
11.	<p>What skills do you think are required to implement the NICE guidelines for self-harm?</p> <ul style="list-style-type: none"> To what extent do you have these skills? How did you acquire these skills (training or experience)? (OR: If they don't feel they are skilled: What would help you to acquire the necessary skills?)
12.	<p>Do you receive any support from your colleagues to implement the NICE guidelines for self-harm? If so, what role do the colleagues have?</p> <ul style="list-style-type: none"> Are the guidelines promoted in your workplace? If so, how? If not, what type of support would you like / need?
13.	<p>To what extent does your work environment provide the opportunity to implement the NICE guidelines for self-harm?</p> <ul style="list-style-type: none"> What would need to change about your workplace for you to better implement the guidelines?
General perceptions of the NICE guidelines for assessing and managing self-harm (7 – 10 mins)	
14.	<p>What do you think about the NICE guidelines for assessing and managing self-harm in general?</p> <ul style="list-style-type: none"> Any surprises? Do you think they are suitable? Why/why not?
15.	<p>What do you think about implementing the NICE guidelines for self-harm in your role/place of work? Do you think they are suitable? Why/why not?</p> <ul style="list-style-type: none"> How easy is it for you to implement the NICE guidelines in your workplace?
16.	<p>What are / do you think would be the main challenges of implementing the NICE guidelines for self-harm with patients?</p> <ul style="list-style-type: none"> Is there anything specific that prevents you from implementing the guidelines?
17.	<p>What do you think are the benefits of implementing the NICE guidelines for assessing and managing self-harm?</p> <ul style="list-style-type: none"> <i>To patients</i> <i>To you personally</i>
Suggestions (3 mins)	
18.	<p>Is there anything that we haven't covered that you feel is important/relevant?</p>

Appendix H: Behaviour Change Wheel Framework Worksheets

Step 2: Select the Target Behaviour - Long list of guideline recommendations

Short-term guidance (NICE, 2004):

General

- Treatment with care, respect and privacy
- Training to understand care for people who have self-harmed (not a behaviour)

Presentation to primary care *following* an episode of self-harm

- Initial assessment (assess physical risk, emotional/mental state). Purpose is to determine mental capacity, willingness to stay for further psych assessment, level of distress, and presence of MI.
- Risk assessment (identify factors associated with risk; communicate results to other staff/orgs involved in care of individual)
- Referral to emergency services if high risk identified – especially in cases of self-poisoning (if in doubt, discuss with emergency department consultant). Transport/supervision needs? Treatment in primary care in rural/remote areas?
- If urgent referral not necessary, case for referral to secondary care made based upon risk & needs (evaluate soc/psych/motiv factors specific to act; intent, hopelessness, MH and social needs) assessment. Forward results to secondary mental health team.
- Referral for comprehensive psychosocial assessment
- Longer term treatment/referral options based on psych assessment
- Prescribing review (for potential toxicity/poisoning risk) for people that have poisoned. Medications less dangerous in overdose, fewer tablets at once. Medication of relatives/household

Longer term guidance (NICE, 2011):

Presentations to primary care *with a history of* self-harm and risk of repetition.

- Consider referral (distress, request, unresponsive to help/carer distress)
- Information sharing with secondary health/social care
- Management of physical health/consequences of self-harm

Shortlist of behaviours:

- Treatment with respect and dignity
 - Avoiding stigmatising language
- Initial assessment: referrals to MH for psych assessment prioritised based upon...
 - Level of distress (of individual and family/carer)
 - Imminent physical risk/consequences of self-harm (manageable in PC?)
 - Frequency/degree of SH; risk of repetition/suicidal intent
 - Individual wants specialist help
- Monitoring of longer-term health:
 - Regular follow-up appts with GP
 - Review of self-harm behaviour (frequency/degree/intent)
 - Medicine review
 - Resource provision: information; social care; voluntary/non-NHS support; self-help
 - Care for coexisting mental health problems

Unacceptable intervention targets from shortlist:

Initial assessment: Assess level of distress (Primary care professionals are already highly trained to *recognise* distress)

Initial assessment: Assess imminent physical risk/consequences of self-harm (primary care professionals are already highly skilled to recognise when injuries/poisonings require specialist attention in emergency/secondary care)

Initial assessment: Individual requests specialist help (primary care professionals already likely to use professional judgement to respond to referral requests from patients).

Monitoring: Care for coexisting mental health problems (primary care staff already do this as part of their role)

Selected targets:

Initial assessment: determining the frequency, degree, and risk of repetition of self-harm ++++; Monitoring: medicine review ++++; Monitoring: resource provision/signposting ++++

Step 4: Identify what needs to change

Combined information:

Survey 1: knowledge of guidelines is poor (psychological capability); access to training about self-harm is low (psychological capability)

Survey 2: high capabilities to implement guidelines; knowledge and training were independent enablers from capability

Low automatic motivation and few physical opportunities.

Interviews 1:

Psych capability (knowledge, skills, MADP).

Physical Opportunity (Env context & Resources).

Reflective Motivation (Beliefs about capabilities).

Summary: Information and skill needs, guideline engagement, clinical uncertainty

Interviews 2:

Psych capability: (knowledge, skills, madp)

Physical opportunity (Env context & Resources).

Reflective Motivation (Professional role and identity).

Social Opportunity (Social influences) – only enablers.

Summary: Information delivery and Resource availability

Step 5: Identify intervention functions

Survey 2: Automatic motivation (not incentivisation, as written in ch 5); enablement, modelling, environmental restructuring.

Physical opportunity; environmental restructuring,

BCW Intervention Functions	Affordability	Practicability	Effectiveness and cost effectiveness	Acceptability	Side effects/ safety	Equity	Comments	Decision Yes/No
Education	✓	✓	✓	✓	✓	✓	Education met all of the APEASE criteria. Educational interventions are affordable, practical strategies for supporting capabilities. It would directly address the	Yes

							expressed needs of healthcare professionals which is likely to be highly acceptable.	
Training	✓	✓	✓	✓	✓	✗	Training is likely to be a practical intervention function, but steps will need to be taken to ensure the intervention does not unfairly exclude healthcare professionals (and practices) with tighter budget constraints.	Yes
Environmental Restructuring	✗	✗	✓	✗	✓	✓	General practice is a highly structured, but heterogeneous environment. Restructuring would require extensive budgetary and planning resources, making it unfeasible and impractical in conjunction with the other intervention functions.	No
Enablement	✓	✓	✓	✓	✓	✓	Enablement met all of the APEASE criteria. Provision of supporting resources optimised for use in primary care is likely to be acceptable, practical, and effective.	Yes
Persuasion	✓	✓	✓	✗	✓	✗	Although persuasion is likely to be affordable and practical to implement, it may not be acceptable for changing GP behaviour, particularly for those most resistant to guideline implementation.	Yes
Modelling	✓	✓	✓	✓	✓	✓	Modelling met all the APEASE criteria, since the use of modelling techniques could be integrated with provision of educational materials without significant extra burden to the intervention.	Yes
Restriction	✓	✗	✗	✗	✗	✓	Restriction of behaviour would not be practical nor acceptable to healthcare professionals who value making judgements based upon their expertise and reject restrictive 'box-ticking' approaches to health provision.	No

Step 6: Identify policy categories

BCW Policy Categories	Affordability	Practicability	Effectiveness and cost effectiveness	Acceptability	Side effects/ safety	Equity	Comments	Decision Yes/No
Communication/ marketing	✓	✓	✓	✓	✓	✓	Feasible	Yes
Fiscal measures	✓	✗	✗	✓	✓	✗	Inappropriate	No
Regulation	✓	✓	✗	✗	✓	✓	Inappropriate	No
Legislation	✗	✗	✓	✗	✗	✓	Inappropriate	No
Environmental/ social planning	✗	✗	✓	✓	✓	✓	Inappropriate	No
Service provision	✓	✓	✓	✓	✓	✓	Feasible	Yes
Guidelines	✓	✓	✓	✓	✓	✓	Feasible	Yes

Step 7: Identify Behaviour Change Techniques

Intervention function	Relevant BCTs identified from BCW	Does the BCT meet the APEASE criteria in the context of primary care?
Education	2. Feedback and Monitoring	
	2.2 Feedback on behaviour	
	2.3 Self-monitoring of behaviour	
	2.4 Self-monitoring of outcomes of behaviour	
	2.6 Biofeedback	
	2.7 Feedback on outcomes of the behaviour	
	4. Shaping Knowledge	
	4.2 Information about antecedents	Yes
	4.3 Re-attribution	
	4.4 Behavioural experiments	
	5. Natural Consequences	
	5.1 Information about health consequences	Yes
	5.3 Information about social and environmental consequences	
	5.6 Information about emotional consequences	Yes
	6. Comparison of Behaviour	
6.3 Information about other's approval	Yes	

	7. Associations	
	7.1 Prompts/cues	Yes
	7.2 Cue signalling reward	
	7.6 Satiation	
Training	2. Feedback and Monitoring	
	2.2 Feedback on behaviour	
	2.3 Self-monitoring of behaviour	
	2.4 Self-monitoring of outcomes of behaviour	
	2.6 Biofeedback	
	2.7 Feedback on outcomes of behaviour	
	4. Shaping Knowledge	
	4.1 Instruction on how to perform a behaviour	Yes
	4.4 Behavioural experiments	
	6.0 Comparison of Behaviour	
	6.1 Demonstration of behaviour	Yes
	8. Repetition and substitution	
	8.1 Behavioural practice/rehearsal	Yes
	8.3 Habit formation	
	8.4 Habit reversal	
	8.7 Graded tasks	
	10. Reward and threat	
	10.9 Self-reward	
	15. Regulation	
15.2 Mental rehearsal of successful performance		
15.4 Self-talk		
Enablement	1. Goals and Planning	
	1.1 Goal setting (behaviour)	
	1.2 Problem solving	Yes
	1.3 Goal setting (outcome)	
	1.4 Action planning	Yes
	1.5 Review behaviour goals	
	1.6 Discrepancy between current behaviour and goal	
	1.7 Review outcome goals	
	1.8 Behavioural contract	
	1.9 Commitment	
	2. Feedback and Monitoring	
	2.3 Self-monitoring of behaviour	
	2.4 Self-monitoring of outcomes of behaviour	
	3. Social Support	
	3.1 Social support (unspecified)	
	3.2 Social support (practical)	Yes
	3.3 Social support (emotional)	
	4. Shaping Knowledge	
	4.4 Behavioural experiments	

	5. Natural Consequences	
	5.2 Salience of consequences	Yes
	5.4 Monitoring of emotional consequences	
	5.5 Anticipated regret	
	8. Repetition and substitution	
	8.2 Behaviour substitution	
	8.5 Overcorrection	
	8.6 Generalisation of a target behaviour	
	8.7 Graded tasks	
	9. Comparison of outcomes	
	9.2 Pros and cons	
	9.3 Comparative imagining of future outcomes	
	10. Reward and threat	
	10.9 Self-reward	
	11. Regulation	
	11.1 Pharmacological support	
	11.2 Reduce negative emotions	Yes
	11.3 Conserve mental resources	
	12. Antecedents	
	12.1 Restructuring the physical environment	
	12.2 Restructuring the social environment	
	12.3 Avoidance/reducing exposure to cues for the behaviour	
	12.4 Distraction	
	12.5 Adding objects to the environment	Yes
	12.6 Body changes	
	13. Identity	
	13.1 Identification of self as role model	
	13.2 Framing/reframing	Yes
	13.3 Incompatible beliefs	Yes
	13.4 Valued self-identity	
	13.5 Identity associated with changed behaviour	
	15. Self-belief	
	15.1 Verbal persuasion about capability	
	15.2 Mental rehearsal of successful performance	
	15.3 Focus on past success	
	15.4 Self-talk	
	16. Covert learning	
	16.1 Imaginary punishment	
	16.2 Imaginary reward	
	16.3 Vicarious consequences	
Persuasion	2. Feedback and Monitoring	
	2.2 Feedback on behaviour	
	2.6 Biofeedback	
	2.7 Feedback on the outcomes of behaviour	

	4. Shaping Knowledge	
	4.3 Re-attribution	
	5. Natural Consequences	
	5.1 Information about health consequences	Yes
	5.2 Salience of consequences	Yes
	5.3 Information about social and environmental consequences	
	5.6 Information about emotional consequences	Yes
	6. Comparison of behaviour	
	6.2 Social comparison	
	6.3 Information about others' approval	Yes
	9. Comparison of Outcomes	
	9.1 Credible source	Yes
	13. Identity	
	13.1 Identification of self as role model	
	13.2 Framing/reframing	Yes
	13.5 Identity associated with changed behaviour	
	15. Self-belief	
	15.1 Verbal persuasion about capability	
	15.3 Focus on past success	
Modelling	6. Comparison of the Behaviour	
	6.1 Demonstration of the behaviour	Yes

(bold type refers to 'commonly selected' BCTs according to BCW guide)

Meets the needs of the barriers:

- 1.2 Problem solving
- 1.4 Action planning
- 3.2 Social support (practical)
- 4.1 Instruction on how to perform a behaviour
- 4.2 Information about antecedents
- 5.1 Information about health consequences
- 6.1 Demonstration of behaviour
- 6.3 Information about other's approval
- 7.1 Prompts/cues
- 8.1 Behavioural practice/rehearsal
- 9.1 Credible source
- 12.5 Adding objects to the environment
- 13.2 Framing/reframing

Step 8: Identify Mode of Delivery

The TIDieR (Template for Intervention Description and Replication) Checklist. Information to include when describing an intervention and the location of the information

Item number	Item	
	BRIEF NAME	
1.	Provide the name or a phrase that describes the intervention.	Facilitating Implementation of National Guidelines for Self-Harm in Primary Care
	WHY	
2.	Describe any rationale, theory, or goal of the elements essential to the intervention.	The intervention was developed using the Behaviour Change Wheel framework and aims to improve implementation of national guidelines for self-harm by increasing knowledge about initial risk assessments, medication reviews as part of long-term management, and local signposting and resources for self-harm.
	WHAT	
3.	Materials: Describe any physical or informational materials used in the intervention, including those provided to participants or used in intervention delivery or in training of intervention providers. Provide information on where the materials can be accessed (e.g. online appendix, URL).	<p>The intervention includes:</p> <p>(1) An educational intervention delivered by a GP educator and patient facilitator using pre-made guide, presentation slides and videos.</p> <p>(2) A digital summary manual of the NICE guidelines for self-harm in primary care</p> <p>(3) A digital summary manual of local resources and organisations that offer support for patients who self-harm</p>
4.	Procedures: Describe each of the procedures, activities, and/or processes used in the intervention, including any enabling or support activities.	<p>The intervention consists of 13 BCTs to GPs and primary care nurses by a GP Educator and patient facilitator. The intervention will support staff to implement national guidelines for self-harm.</p> <p>A digital summary manual will be provided to GPs and primary care nurses with information on the NICE guidelines for self-harm, and local resources and organisations that can support people who self-harm.</p>
	WHO PROVIDED	
5.	For each category of intervention provider (e.g. psychologist, nursing assistant), describe their expertise, background and any specific training given.	<p>Criteria for the GP Educator:</p> <ol style="list-style-type: none"> 1. Be from a health profession represented within primary care (e.g.: GP, primary care nurse, practice manager) 2. Have experience with dealing with self-harm among patients with mental health issues. 3. Be able to advise on acceptability or feasibility issues with the intervention and study protocol. <p>Criteria for the patient facilitator:</p> <ol style="list-style-type: none"> 1. Have lived experience of self-harm 2. Have previously accessed support from primary care for self-harm 3. Be currently well enough to discuss practice for self-harm. <p>The GP Educator and patient facilitator will be briefed by the research team and provided with the intervention guide and slides/videos for presentation to staff.</p> <p>All staff at the participating general practices will be invited to attend the 2-hour session.</p>
	HOW	
6.	Describe the modes of delivery (e.g. face-to-face or by some other mechanism, such as internet or telephone) of the intervention and	The intervention will be delivered in a face-to-face group session by an experienced GP educator and supported by a patient facilitator with lived experience of self-harm using pre-developed

	whether it was provided individually or in a group.	materials. The digital manuals will be hosted online and freely available to download (and print) for offline use.
	WHERE	
7.	Describe the type(s) of location(s) where the intervention occurred, including any necessary infrastructure or relevant features.	The intervention will be delivered in general practices as part of staff CPD training days.
	WHEN and HOW MUCH	
8.	Describe the number of times the intervention was delivered and over what period of time including the number of sessions, their schedule, and their duration, intensity or dose.	The intervention will be delivered once and last for approximately 2 hours. The digital manuals will be delivered during the session, but will be freely accessible online afterwards.
	TAILORING	N/A (intervention not yet delivered).
9.	If the intervention was planned to be personalised, titrated or adapted, then describe what, why, when, and how.	
	MODIFICATIONS	
10. [‡]	If the intervention was modified during the course of the study, describe the changes (what, why, when, and how).	N/A (intervention not yet delivered).
	HOW WELL	
11.	Planned: If intervention adherence or fidelity was assessed, describe how and by whom, and if any strategies were used to maintain or improve fidelity, describe them.	Fidelity will be assessed through trainer self-reports, and interviews with staff participants.
12. [‡]	Actual: If intervention adherence or fidelity was assessed, describe the extent to which the intervention was delivered as planned.	N/A (intervention not yet delivered).