EMERGENCY DEPARTMENT CODING PRACTICES AND STAFF DECISION-MAKING FOR PEOPLE ATTENDING IN SUICIDAL CRISIS: A MIXED-METHODS STUDY.

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A thesis submitted to Liverpool John Moores University for the degree of Doctor of Philosophy (PhD) in the Faculty of Health.

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Table of Contents

List of Tables

List of Figures

List of Abbreviations

BME – Black and Minority Ethnic
CAG – Confidentiality Advisory Group
COVID-19 – Coronavirus
CWP – Cheshire & Wirral Partnership NHS Foundation Trust
ECDS – Emergency Care Data Set
ED – Emergency Department
GP – General Practitioner
HER – Electronic Health Record
HES – Hospital Episode Statistic
ICD – International Classification of Diseases
IMV – Integrated Motivational Volitional Theory of Suicide
IRAS - Integrated Research Application System
LJMU – Liverpool John Moores University
MMR – Mixed-Methods Research
NCISH – National Confidentiality Inquiry into Suicide
NHS – National Health Service
NICE – National Institute for Health Care and Excellence
NIHR – National Institute of Health Research
ONS – Office of National Statistics
PPI – Public and Patient Involvement
RCT – Randomised Controlled Trial
SDM – Shared Decision-Making
SES – Socioeconomic Status
SNOMED-CT – Systemised Nomenclature of MEDicine – Clinical Terms
UK – United Kingdom
USA – United States of America
WHO – World Health Organisation

Abstract

This thesis aimed to make a critical contribution to research and practice relating to Emergency Department (ED) coding practices and staff decision-making for people attending in suicidal crisis. Gaps in the literature include a primary focus on self-harm as the outcome, failing to account for suicidal crisis presentations when physical treatment needs were not present, limited search strategies to identify presentations from ED records when exploring presentations and auditing records, and a lack of exploration of decision-making from the perspective of different staff along the clinical pathway. To address these identified gaps in the literature, five unique studies were developed, adopting a range of methods and analyses.

First, cross-sectional data were analysed from a large community-based public health survey in the North West Coast, England (N=3,412) to explore the predictors of self-harm and ED-related attendance. Self-harm was the primary outcome of this study due to the absence of appropriately collected and recorded data for suicidal crisis. Second, a systematic review of 17 papers examined the factors influencing ED staff decision-making. To help understand the findings, 23 semi-structured interviews were subsequently conducted with a range of ED staff; the qualitative data were then combined with quantitative data extracted from 15,411 suicide-related ED presentations across six EDs in Cheshire and Merseyside, to allow for a mixed-methods exploration of staff decision-making. Finally, call data were examined for 4,979 mental health crisis lines to explore the newly implemented service to divert people away from attending EDs during the COVID-19 pandemic.

Overall, the thesis highlighted challenges and inconsistencies in the field and provided suggestions for how best to record suicidal crisis within EDs. The need for specific coding guidelines and training to support staff was also discussed, taking into account the significant pressures ED staff face. Findings also provided a better understanding of the factors influencing staff decisions along the clinical pathway, highlighting similar challenges and concerns at all levels (staff burnout, negative ED culture, increased working pressures and environmental concerns). Finally, gaps in ED staff's confidence and knowledge were discussed in relation to negative attitudes and language, and how this can negatively impact on a patient's presentation, experience, and care.

Declaration

I declare that no portion of the work referred to in this 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.

Published and Under Review Papers Included in this Thesis

McCarthy, M., Nathan, R., Ashworth, E., Saini, P. & McIntyre, J. (2023). “No Abnormality Detected”: A Mixed-Methods Examination of Emergency Department Coding Practices for People in Suicidal Crisis. (Revised and Resubmitted - Archives of Suicide Research).

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Saini, P., & **McCarthy, M**. (2021). Imagining the Future: A Service Evaluation.

Conference Presentations

Mental Health Upskilling Workshop, Cheshire & Wirral Partnership NHS Foundation Trust (2023).
Oral Presentation on ' Staff Perspectives of People Attending Emergency Departments: A Qualitative Study.' – Aim to Translate Research into Practice.

International Association of Suicide Prevention (IASP), Piran, Slovenia (2023).
Symposium 'Implementation of Evidence Based Clinical Care for Self-Harm in ED Settings' with key researchers and academics in the field from Ireland, America and the UK.
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Royal College of Psychiatrists International Congress (2023).
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Oral Presentation on Factors influencing emergency department staff decision-making for people attending in suicidal crisis: A systematic review.
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Suicide Cultures Conference, Edinburgh (2023).
Oral Presentation on Staff Perspectives of Emergency Department Pathways for People in Suicidal Crisis: A Qualitative Study.

SSHRG Conference, Liverpool (2022).
Oral Presentation on Systematic Review and Crisis Line Evaluation Report.

LJMU Knowledge and Exchange Conference, Liverpool (2022).
Oral Presentation on Systematic Review.

19th European Symposium on Suicide and Suicidal Behaviour, Copenhagen, Denmark (2022).
Poster Presentation on Improve Coding Practices for Patients in Suicidal Crisis.

LJMU Students at the Heart Conference, Liverpool (2022).
Oral Presentation on Research Impact: Why PGRs need to think about impact.

6th Suicide and Self-Harm Early and Mid-Career Researchers' Forum, Glasgow (2022).
Oral Presentation on Improve Coding Practices for Patients In Suicidal Crisis.

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Awards

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Chapter 1: Introduction

Suicide is a major public health concern, with more than 700, 000 people dying by suicide worldwide each year (World Health Organisation [WHO], 2021). EDs are often the first point of contact for those following suicidal thoughts and/or behaviours; thus, they represent a key setting for suicide prevention and intervention. This thesis sets out to explore ED suicidal crisis presentations, how these are recorded, and the factors that influence the decision-making of the staff involved in the care and support they provide to those attending in suicidal crisis at various points along the pathway. To introduce this chapter, the key concepts and terminology used throughout this thesis will be described. Next, suicide prevalence and risk factors will be discussed, followed by the recording of suicide, as well as suicide surveillance systems. Suicide prevention policy and contact with services prior to suicide will then be considered, including a summary of the current pressures on healthcare services and staff. Finally, the key gaps identified in the literature will be summarised alongside the associated thesis chapters which aim to address the existing gaps.

1.1. Key Concepts and Terminology

This thesis makes novel contributions to research methods, literature, and practice relating to ED coding practices for suicidal crisis, self-harm, and suicide attempts. It is therefore important to start with a brief overview of the relevant key concepts and associated terminology used throughout this thesis.

Terminology used across suicide and self-harm varies by academic discipline, research setting, and geographical location, amongst a range of other factors (Silverman, 2016). As a result, there is no agreed, consistent terminology used to describe suicidal behaviours (Silverman, 2016). Indeed, there are a range of terms used to try and facilitate shared understanding, such as: suicidal crisis, ideation, thoughts, feelings, intent and behaviours; suicide attempts, deliberate self-harm, and non-suicidal self-injury. However, concerns have been raised that, as a consequence of inconsistent terminology, it can be difficult to communicate and compare findings across studies (Silverman, 2006; 2016).

Some have argued that the 'messiness' in suicide terminology reflects the difficulties in 'neatly' categorising thoughts and actions (Andover et al., 2012; Marsh, 2016). This is particularly the case with the distinction between self-harm and suicidal behaviours, where the intent of an action can change from moment to moment (McDermott & Roen, 2016). For the purpose of this thesis, it is essential that I am clear about my use of language. I will use the term '**suicidal crisis'** to mean someone experiencing psychological distress, which consists of a spectrum ranging from suicidal thoughts without an intent or plan to die by suicide to specific suicidal thoughts with an intent or plan (Saini et al., 2021). It is important to note suicidal crisis differs from person to person but ultimately involves suicidal or self-harm related thoughts without any resultant physical injuries (Galynker, 2023). **Suicidal thoughts/ideation** will be used to describe thoughts about taking actions to end one's life (Andover et al., 2012; Robinson et al., 2018); and **'self-harm'** as the practice of intentionally injuring oneself, including but not limited to cutting, poisoning, scratching, burning and hitting (Chandler et al., 2011; Daley, 2015). Furthermore, the term **'suicide attempt'** will be used to mean a non-fatal act performed where there is some evidence of the intent to end one's life (Silverman, 2007; Andover et al., 2012). Finally, in order to avoid stigmatising language, I use the terms **'death by suicide'** and **'died by suicide'**, and refer to individuals as having '**lived experience'** of suicidal thoughts and/or behaviours (Volkow et al., 2021).

1.2. Suicide Prevalence and Risk Factors

In this thesis, I examine the complete pathway from suicidal crisis to the ED and subsequent pathways to primary and community care. As such, it is important to understand what factors increase the risk of suicidality in the first place to understand who is more likely to attend EDs and what risk factors related to ED attendance for self-harm and suicidal crises. I examine risk factors associated with ED attendance in a non-clinical sample specifically in Chapter 4 and while no research has examined risk of ED attendance in general populations, past research has identified key risk factors for suicide more broadly. The following sections will touch on what is already known regarding the prevalence of suicide among key groups of individuals.

Suicide is still recognised as a major public health problem, both internationally and in the UK (WHO, 2019). Globally, more than 700,000 people die by suicide every year, with suicide being the fourth leading cause of death among 15-29-year olds (WHO, 2019). The overall number of suicide deaths has increased by 19,987, from 738,799 in 1990 to 758,696 in 2019; with the sharpest rise in lower middle-income countries where the death toll increased by 72,550, from 232,340 to 304,890 (Yip et al., 2022).

In the UK, the most recent data available is for the year 2021, in which 5,583 suicides were registered in England and Wales: an equivalent rate of 10.7 deaths per 100,000 people (ONS, 2021). While this rate was significantly higher than the 2020 rate of 10.0 deaths per 100,000 people, it was consistent with the pre-coronavirus (COVID-19) pandemic rates in 2018 and 2019 (ONS, 2021). By English region, the North West had one of the highest rates of deaths by suicide at 12.9 deaths per 100,000, which is significantly higher than the rates for England overall.

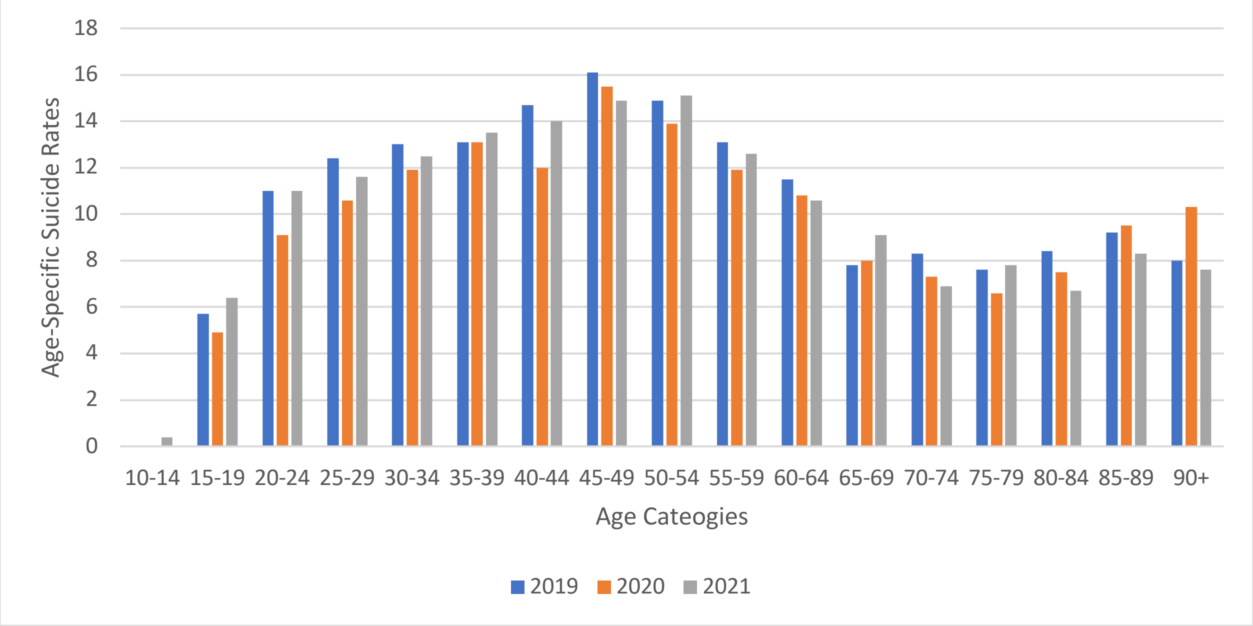
1.2.1. Age

Regarding age, more than half (52.1%) of global suicides occurred before the age of 45 years (WHO, 2019b). Most adolescents who died by suicide (90%) were from low and middle-income countries (WHO, 2019b). Suicide was the second leading cause of death in young people aged 15-29 years for both sexes, after road injury (WHO, 2019b). For females and males, respectively, suicide was the second and third leading cause of death in this age group. Global differences exist, however; for example, suicide rates amongst South Asian women are particularly high, resulting in an even gender split overall (Bhui et al., 2012).

In the UK, women aged 45 to 49 years had the highest age-specific suicide rate at 7.8 per 100,000 in 2021. This is equivalent to 146 registered deaths. Among men, those aged 50 to

54 years had the highest age-specific suicide rate at 22.7 per 100,000 (456 deaths) in 2021 (ONS, 2021). Figure 1 displays the age specific suicide rates in England and Wales for the years 2019-2021. This year range was chosen to represent the data accessed in this thesis.

Figure 1. Age Specific Suicide Rates in England and Wales for Years 2019-2021.
Data Source: Office of National Statistics (2021).



1.2.2. *Biological Sex and Gender Identity*

It is important to start this section by recognising the way in which gender and sex are discussed and classified within the literature and data sources. The binary biological sex classification of 'males' and 'females' often used in research studies does not recognise individuals' own gender identity (i.e., 'man' and 'woman'), which may or may not be aligned with their sex assigned at birth, and also fails to account for non-binary gender identity. The umbrella term 'trans' refers to individuals whose gender expression or identity differs from assigned sex at birth (Bailey et al., 2014). Some trans people have a binary gender identity and identify as either a man or a woman, whereas others may identify as pangender, multigender, gender fluid, demigender or agender persons (Zinchuk et al., 2022). Within the past decade, more research has explored gender identity and suicide rates, with increasing research into transgender adolescents, primarily in the US (e.g., Toomey et al., 2018; Biggs, 2022). Within the UK, research has reported high rates of suicidal ideation (84% lifetime prevalence) and attempted suicide (48%) among transgender individuals (*n*=889) (Bailey et al., 2014).

As noted above, many data sources, such as the ONS, use binary classification when collecting information on biological sex, rather than gender identity; thus, the following section will discuss data available for males and females, with the recognition that nuanced information relating to gender identity may be lost. With regard to suicidal behaviour, there is a large body of evidence that highlights important differences between males and females; with more males dying through suicide and more females engaging in self-harm (Schrijvers et al., 2012; Barrigon & Cegla-Schvartzman, 2020). More specifically, in developed countries, the male-to-female ratio for suicide is between two (Western Europe) and four (USA) to one (Hawton & van Heeringen, 2009). Males are three times more likely to die by suicide than females (Bachmann, 2018). Females are also more likely to use social supports available to them, as well as seek psychiatric or medical intervention, which may deter them from dying by suicide (Oliver et al., 2005; Clement et al., 2015). However, there has been a marked increase of self-harm by young males in particular and a corresponding reduction in females, which has led to the 'female:male' ratio for self-harm becoming equal over time (Kapur & Gask, 2006).

In the academic literature, researchers have proposed a number of explanations for why sex and gender are such important determinants of suicide rates. A common explanation relates to the social constructions of 'hegemonic masculinity and femininity'. Gender studies explain hegemonic masculinity as the practices that are classified as the dominant social position of men, and the subordinate social position of women (Connell & Messerschmidt, 2005). Conceptually, hegemonic masculinity proposes to explain *how and why* men maintain dominant social roles over women, and other gender identities, which are perceived as 'feminine' in a given society. Dominant discourses among hegemonic masculinity include what it means to be a 'man' and how this is likely to influence men's help-seeking behaviour; for example, 'men are strong and don't talk' (Lynch et al., 2018). The vulnerability which is associated with femininity is therefore seen as something to be avoided, reinforcing the discourse which prevents males from seeking help for suicidal thoughts and feelings (Möller-Leimkühler, 2002).

Additional factors have been put forward as the causes of the 'gender paradox', one being methods of suicide. The most commonly cited reason for the gender paradox is that men tend to use methods of self-harm of higher potential lethality (Mergl et al., 2015; Gromatsky et al., 2022), this will be discussed further in the next section. Another explanation may be the heightened levels of stress that result from traditional gender roles. For example, death of a spouse and divorce are risk factors for suicide in both genders, but the effect is somewhat mitigated for females as they are more likely to maintain social and familial connections (Stack, 2000). Another factor closely tied to gender roles is employment status; males' vulnerability may be heightened during times of unemployment, perhaps due to gendered expectations that males should provide for themselves and their families (Möller-Leimkühler, 2003).

1.2.3. Sexuality

While the ONS does not provide information or data on other variables associated with death by suicide, it is important to recognise additional factors / at-risk populations for suicidal thoughts and/or behaviours. Among those in at-risk populations, members of the LGBTQ+ (lesbian, gay, bisexual, transgender, queer) community have been reported to experience suicidal thoughts and attempts three times more compared with heterosexual, cisgender counterparts (Marshal et al., 2011; Hill et al., 2022). This can be fuelled by various factors such as unsupportive families, discrimination, and violence (Eigenman, 2023). These individuals may also face additional barriers to access and disparities when being treated in healthcare services (Aleshire et al., 2019).

1.2.4. Ethnicity

Previous global evidence suggests that for certain ethnic minority groups, self-harm (regardless of suicidal intent) is more likely than majority groups (Troya et al., 2022; Al-Sharifi et al., 2015). Individuals from ethnic minority groups are more likely to experience stigma and discrimination, language barriers, and acculturative stress which influence suicide risk (Poyrazli et al., 2010; Liem et al., 2021). Rates and risk factors for self-harm and suicide vary amongst ethnic minorities within the UK compared to White groups, including between different age and gender groups (Cooper et al., 2010). Higher rates of self-harm have been reported in South Asian females compared to South Asian males or White females (Husain et al., 2006). Evidence from the Multicentre Study of Self-harm in England has also reported differences between ethnic groups, with increases in self-harm rates between 2009 and 2016 for Black ethnic groups (incidence rate ratio 1.07, [95% CI 1.03-1.11]), South Asian groups (1.05, [1.01-1.09]) and other non-White groups (1.11 [1.06-1.16]), compared with White groups (1.02 [1.00-1.03]) (Farooq et al., 2021).

However, research regarding suicide risk and ethnic minority status is mixed, with some evidence suggesting higher rates of suicide in ethnic minority groups and other studies pointing to an opposite effect (Forte et al., 2018). This may be explained by the varying meaning of suicide in different cultural groups which confers different risk of suicide, and/or the varying underlying mortality rate of suicide by country (Colucci & Lester, 2012). In some settings, suicide is reported as a response to social stressors, such as in South Asia

(Abrutyn, 2017; Sørensen et al., 2017), whereas in other contexts religious beliefs might make suicide less likely. In recent work, Troya and colleagues (2022) conducted a systematic review and meta-analysis to explore suicide rates amongst individuals from ethnic minority backgrounds. A total of 128 studies were included with 6,026,103 suicide deaths across 31 countries. From this, authors reported weak statistical evidence that individuals from ethnic minority groups were more likely to die by suicide. Authors concluded that the homogenous grouping of individuals from ethnic minority backgrounds is inappropriate and that to support suicide prevention in marginalised groups, further exploration of important contextual differences in risk is needed (Troya et al., 2022).

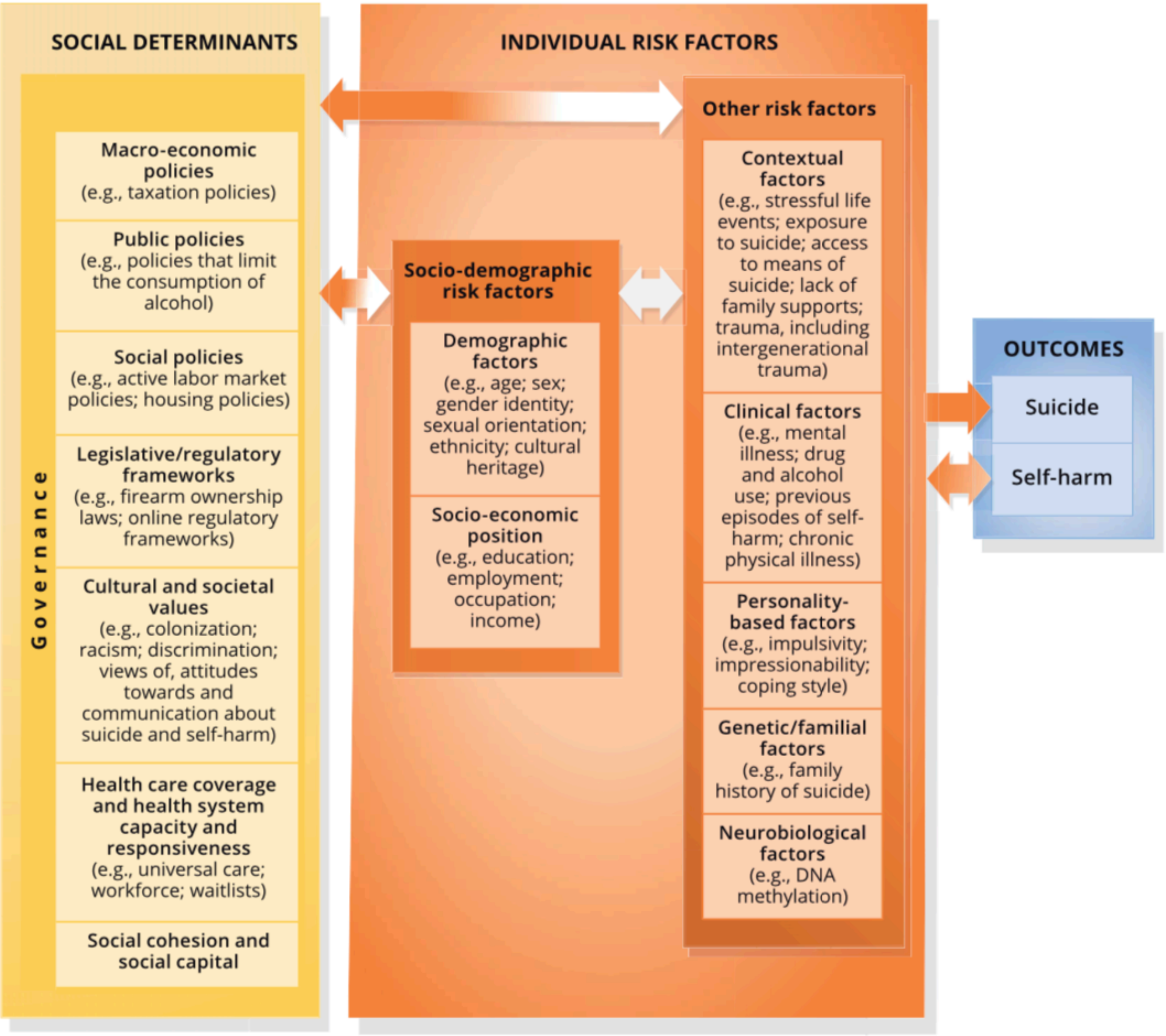
1.2.5. Health Inequalities

Globally, the majority of deaths by suicide occurred in low and middle-income countries (79%), where most of the world's population lives (84%) (WHO, 2019b). Suicide rates in the African (12.0 per 100,000), European (12.9 per 100,000) and South-East Asia (13.4 per 100,000) region were higher than the global average (10.5 per 100,000) in 2016 (WHO, 2019b). The lowest suicide rate was in the Eastern Mediterranean region (4.3 per 100,000) (WHO, 2019b).

Existing models and theories of suicide and self-harm highlight the important role social determinants and health inequalities play in either exacerbating or mitigating risk. One example being the Social Determinants of Suicide and Self-Harm Model (Figure 2; Pirkis et al., 2023). The current model gives importance to sociodemographic risk factors directly related to socioeconomic position (e.g., occupation, income) due to the strong evidence from multiple studies that suggests low socioeconomic position is associated with suicide and self-harm (Iemmi et al., 2016; Knipe et al., 2015; also see Chapter 4).

Prominent economic factors for suicide and self-harm at an individual level include, among others, financial hardship (e.g., inability to repay debt), short- and long-term unemployment, underemployment (e.g., working less than desire or required due to economic reasons), overqualification, and job insecurity or precarious employment (Haw et al., 2015; Mathieu et al., 2022). People with lower socioeconomic status (SES) are also widely acknowledged to be at higher risk of suicidal thoughts and behaviours (Choi et al., 2023; Zhang et al., 2015). Research has reported both individual SES factors, such as employment status and education (Kposowa et al., 2019; Assari et al., 2019), and area socioeconomic factors (Stack, 2021) to be associated with suicidal behaviours. However, findings do vary across studies, counties, and measures of SES used (Burrows & Laflamme, 2010).

Figure 2. Social Determinants of Suicide and Self-Harm. Adapted from Solar and Irwin (2010); Taken from Pirkis et al. (2023).



At population level, macroeconomic factors associated with elevated rates of suicide and self-harm most frequently include the overall unemployment rate and periods of economic recession (Gunnell & Chang, 2016; Mäkinen et al., 2021). However, the relationship can be bidirectional, as highlighted in the Social Determinants of Suicide and Self-Harm Model (Pirkins et al., 2023); for example, social policies to address periods of economic recession (e.g., policies that ensure a minimum wage) can have positive effects and reduce suicidal thoughts and/or behaviours (Mathieu et al., 2022).

1.2.6. Individual History

The risk of suicide attributable to mental disorders is well established in the literature (Ferrari et al., 2014; Whiteford et al., 2013). Most people who die by suicide have either a psychiatric disorder, mood disorder, substance-related issues, anxiety, or psychotic and personality disorders (San Too et al., 2019; Moitra et al., 2021). Existing systematic reviews indicate that suicide risk is particularly high at the time of diagnosis for affective disorders and schizophrenia (Cavanagh et al., 2003; Walker et al., 2015). Up to 80% of suicide deaths have been attributed to a mental or substance use disorder in high-income countries compared to approximately 70% in low-income countries (Ferrari et al., 2014).

Individuals with previous self-harm and those who have been hospitalised for suicide-related behaviours previously are also identified as at-risk populations (Ribeiro et al., 2016; Geulayov et al., 2019). The National Confidential Inquiry into Suicide and Safety in Mental Health [NCISH] (2022) report further highlights information on suicide deaths by patients (i.e., people in contact with mental health services within 12 months of suicide) in the UK from 2009-2019. The most common method of suicide among patients was hanging, in which the increase was especially seen in women (32% of all female deaths in 2009-2012 to 41% in 2016-2919). Understanding the methods of suicide used among people with mental health conditions could enhance prevention approaches, particularly for this vulnerable group.

1.3. Risk Factors Summary

Together, the above data suggest that demographic and socioeconomic determinants are important in the context of suicide and suicidal crisis. Knowing the individual characteristics of people attending EDs and the social stressors that increase risk of attendance can help inform coding practices and help staff better support people in the ED.

1.4. Methods of Suicide

A number of factors influence the selection of a suicide method, yet the societal trends in suicide can be comprehended by considering fundamental principles such as the cultural and traditional acceptance of the method and its accessibility (Stack, 2021). Methods used vary with access and availability but also across genders, ages and countries (Miranda-Mendizabal et al., 2019; Stevens et al., 2019).

Self-poisoning with pesticides accounts for 14-20% of global suicides, with the problem being most severe in rural Asian communities, where a wide range of agricultural hazardous pesticides are easily available within homes and from shops (Mew et al., 2017; Weerasinghe et al., 2014; Bonvoisin et al., 2020). For instance, in India, pesticide-related suicides are recognised as a significant issue accounting for the majority of self-poisoning deaths; 7.9 per

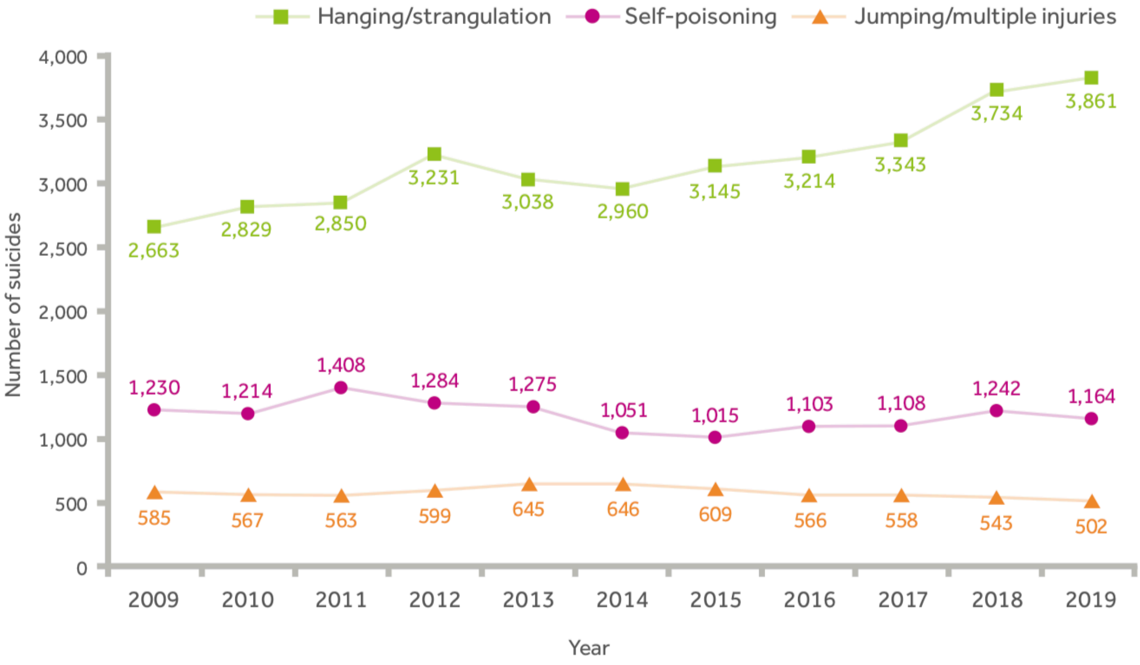
100,000 per year for women and 13.8 per 100,000 per year for men (Patel et al., 2012). Restricting access to pesticides at a local level is one strategy to address death by suicide through pesticide ingestion. A systematic review examined the effectiveness of restricting access and reported providing central storage, locked household containers and local insecticide bans showed promise in reducing pesticide suicides or attempts (Reifels et al., 2019). National bans in several countries have led to large reductions in the number of pesticide suicides and in the total number of suicides where pesticide self-poisoning is a common means of suicide (Gunnell et al., 2017).

As discussed in the Social Determinants of Suicide and Self-Harm Model (Pirkins et al., 2023), legislative policies, for example, firearm availability, may increase the risk of suicide. Studies have reported that in countries where gun control laws are lax and firearms are accessible, the use of firearms as a method of suicide is relatively common (Chen et al., 2016; John et al., 2016). For instance, in the USA, where firearm access and ownership are high, 51% of suicides are due to firearm injury (Betz et al., 2022). Among youths, aged 10 to 19 years who died by suicide in 2020, 42% used a firearm, almost always one that belonged to a family member (John et al., 2020). Lethal means safety, in which access to firearms is reduced, is an evidence-based approach to reducing suicide risk (Pallin & Barnhorst, 2021). For firearms, this means removing firearms from the home or changing laws regulating firearms (Betz et al., 2022).

Effective changes to legislation in the UK have been evidenced since the 1998 restriction on pack sizes of paracetamol on suicide rates (Simkin et al., 2012). Analysis of mortality data for England and Wales and UK liver unit data showed that the legislation change was followed by significant reductions in deaths over an 11-year period (43% or 765 fewer deaths; 990 when accidental deaths were included) and in liver transplantation for paracetamol-induced hepatoxicity (61% fewer transplantations) (Gunnell et al., 2013).

A striking feature of recent suicide trends in England has been a marked increase in suicide by hanging/strangulation and suffocation (Biddle et al., 2010); accounting for 58.4% of all suicides in 2021 (ONS, 2021). In previous years, this method was most prevalent among men, however, in the past decade hanging has also eclipsed self-poisoning as the most common method used by women aged 15-34 years (Biddle et al., 2008). This finding was similarly mirrored by the most recent National Confidentiality Inquiry [NCISH] report (2022). A significant rise in deaths by hanging was reported for the years 2018-2019, and this increase was in both men and women, and in all age groups of under 25, 25-44, 45-64 and 65 years and over (NCISH, 2022). Among the less frequent methods of suicide, deaths by cutting/stabbing increased in 2018-2019, while deaths from gas inhalation decreased (NCISH, 2022). Figure 3 displays the main methods of suicide in the general UK population from 2009-2019 (taken from NCISH, 2022).

Figure 3. Suicide in the general UK population 2009-2019: main suicide methods (taken from NCISH, 2022).



Methods of suicide have also been associated with specific geographical areas, with certain sites gaining notoriety as ‘hotspots’ for suicide by jumping. In the UK, Beachy Head Cliffs in East Sussex is an example of such a spot. Structural interventions (e.g., barriers and safety nets) have been shown to be effective in reducing the number of suicides per year at such sites. For example, Pirkis et al. (2013) conducted a meta-analysis pooling data from nine studies and reported that, following the interventions, there was an 86% reduction in suicides by jumping per year at the sites in question.

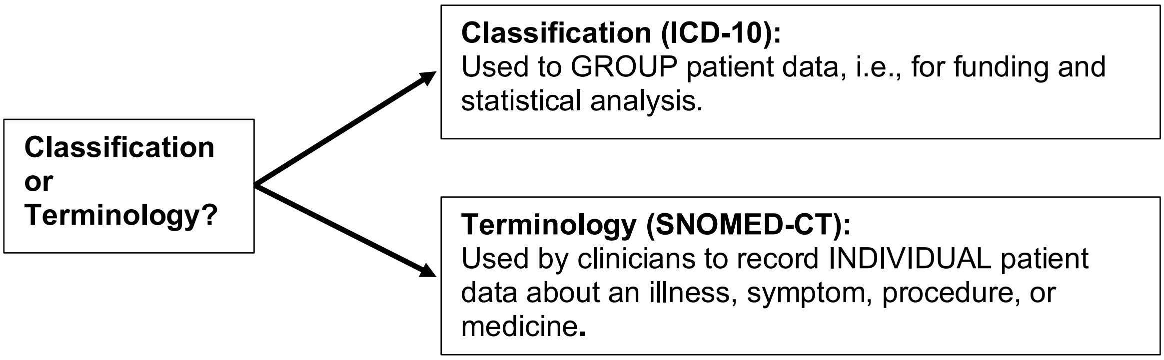
1.5. Recording of Suicide

The developing world accounts for the highest number of suicide deaths (Fleischmann & Wasserman, 2016); although, the accuracy of official national suicide figures worldwide is difficult to determine. The World Health Organisation (WHO) determines suicide statistics based upon the official reports from each respective country and therefore the results are dependent on the accuracy and reliability of national approaches and record-keeping (Tøllefsen et al., 2012). However, the incidence of suicide may be under-reported in some countries due to both religious and social pressures. In twenty countries, attempted suicide is still classified as a crime with accompanying punishment (Lew et al., 2022). Consequently, in these countries, the recording of deaths by suicide may be under-reported due to the ‘shame’ upon the family and associated stigma resulting in deaths being described as something else within coroner reports (Burrows & Laflamme, 2010). Since the data might be unreliable, comparing suicide rates between countries may be statistically unsound. Furthermore, the wide variations between countries might also reflect differences in death certification and the actual incidence of suicide (Khazaei et al., 2017).

In the United Kingdom, The Office of National Statistics (ONS) is responsible for collecting and reporting data on a range of statistics, including suicide rates. The ONS produces annual reports which include breakdowns by age, gender, region and method of suicide, with suicide rates calculated per 100,000 population to help understand the relative risk of suicide among different demographic groups over time. The process of recording suicide deaths is through the coronial system, where coroners (medically or legally trained) are presented with a death suspected to be due to unnatural causes (Harris, 2017). In 2018, as a result of a case in the High Court, the standard of proof (also known as evidence threshold) used by coroners to determine suicide deaths was changed from “beyond all reasonable doubt” to “on the balance of probabilities” (ONS, 2020). Once the cause of death is established in an inquest, death certificates can be released and officially registered at the corresponding local health authority. Death information is then sent to the General Register Office, and finally to the ONS. The inquest process for coroners to establish cause of death can often be a lengthy process which creates a gap between the date of death and registration, thus, resulting in a registration delay (ONS, 2020; Walker et al., 2008).

Another avenue for recording deaths by suicide in the UK is through Hospital Episode Statistic (HES) data, which contains clinical information on a patient’s hospital activity, treatment and discharge (Herbert et al., 2017). HES data is gathered through clinical coding, which means applying unique codes to various aspects of patient care; these can be ‘classification’ or ‘terminology’ codes (see Figure 4; NHS, 2023).

Figure 4. Clinical Coding: Classification or Terminology (NHS, 2023).



Classification or Terminology?

Classification (ICD-10):
Used to GROUP patient data, i.e., for funding and statistical analysis.

Terminology (SNOMED-CT):
Used by clinicians to record INDIVIDUAL patient data about an illness, symptom, procedure, or medicine**.**

ICD-10 (International Classification of Diseases, version 10) is the global standard ‘classification system’ which includes codes for groups, or classes, of disease (WHO, 2023). In regard to suicide-related codes, ICD-10 includes ‘suicidal ideation’ (R45.81), ‘suicide, suicidal attempted’ (T14.91) and ‘intentional self-harm’ (X60-X84).

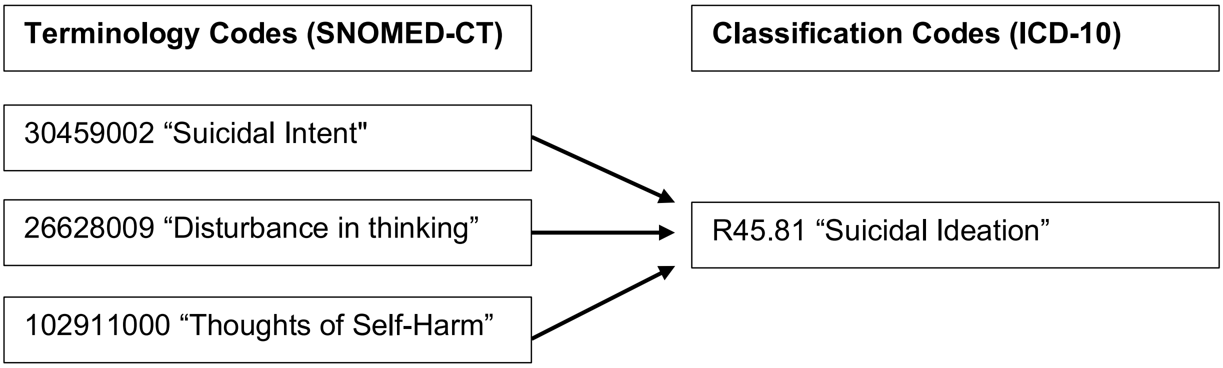
SNOMED-CT (originally Systemised Nomenclature of MEDicine – Clinical Terms) is a comprehensive clinical terminology product for use in electronic health records. SNOMED-CT is mandated as an NHS fundamental information standard in NHS England and the 2023 UK edition contains 357,000 globally common codes, as well as 35,00 UK clinical extensions (NHS, 2023).

Increasingly in practice, especially within EDs, clinicians record clinical information relating to the direct care of the patient using SNOMED-CT codes. A clinical coder then summarises the care episodes using ICD-10 codes and “mappings” are available to assist coders (see Table 1). Figure 5 shows an example classification map for ICD-10 code ‘suicidal ideation’.

Table 1. SNOMED-CT to ICD-10 Classification Maps (NHS, 2023).

Map Type 1	Map Type 2	Map Type 3	Map Type 4
Links a single SNOMED-CT concept to a single classification code to represent the clinical meaning of the concept.	Links a single SNOMED-CT concept to a combination of classification codes which collectively represents the meaning of the SNOMED concept. Map 1 and 2 may be generated automatically within systems, allowing the coder to devote time to the validation of mode complex maps.	Links a single SNOMED-CT concept to a choice of classification codes (default and alternative targets). Validation involves a coding expert using the additional detail found within the medical record, applying the rules, conventions and standards to the classification, and manually selecting the final classification code or codes from a list of alternative targets.	Links a single SNOMED-CT concept to a choice of classification maps. Each choice of map may contain a single, combination or choice of target codes. Final selection will be informed by additional detail within the medical record and application of classification expertise by the coder.

Figure 5. Example Mapping of Terminology Codes to Classification Code.



Information on patients who die in hospital can be analysed on the basis of their primary diagnosis, yet HES data alone cannot be used to identify the cause of death since the primary diagnosis may differ from the cause of death. For example, a patient admitted for a fracture (with a primary diagnosis of fracture) may die from an unrelated heart attack. HES data also has the limitation that it does not capture deaths that occur outside of hospital and this is problematic as many suicide deaths occur away from hospital settings.

1.6. Suicide Surveillance Systems

Records of deaths by suicide have their problems (Goldney, 2010), but at least a clear system is in place. Unfortunately, the recording of suicidal crisis and self-harm is much less clear and robust (McCarthy et al., 2021). Suicide surveillance systems, however, can play an essential role in suicide prevention by providing important epidemiological data on rates of, and risk factors for, self-harm, suicidal ideation, and suicide attempts (Witt & Robinson, 2019). At present, only a few suicide surveillance systems exist internationally; with one located in the UK, the Multicentre Study of Self-Harm in England. Despite this, existing surveillance systems have had a number of positive impacts. First, data can be used to identify clinically relevant populations and subgroups who are at risk; thus, enabling prevention strategies to better target these groups. Systems have also allowed for suicide-related presentations to be tracked over time (Geulayov et al., 2016; Perry et al., 2012); in turn, this has provided data to evaluate the clinical management of suicidal presentations between systems (Carroll et al., 2016), and following changes to clinical practice guidelines (Kapur et al., 2008; Kapur et al., 2013). Finally, these systems can identify emergent methods of self-harm and suicidal behaviours promptly and preventative measures can then be implemented (Cairns et al., 2018; Daly et al., 2018).

1.6.1. What are the Challenges in Such Systems?

Despite their benefits, challenges exist with such systems. In their editorial, Witt and Robinson (2019) surveyed lead investigators from four suicide surveillance systems (Multicentre for Self-Harm, England; Hunter Area Toxicology Service, Australia; Bristol Self-Harm Surveillance Register, and the Irish National Self-Harm Registry). Key challenges identified included: developing robust case ascertainment protocols, stakeholder engagement strategies, supporting research innovation, and securing ongoing funding. Each of these issues are discussed in turn below.

First, developing consistent and reliable approaches to case ascertainment is fundamental to the robustness of any suicide surveillance system, yet this is often hindered by a number of factors (Witt & Robinson, 2019); one of these factors being a lack of standard, universally accepted, definition of what behaviour(s) constitute self-harm. The WHO *Practice Manual for Establishing and Maintaining Surveillance Systems of Suicide Attempts and Self-Harm* recommends all cases of self-harm leading to hospital presentation, irrespective of suicidal intent and method used, should be eligible for inclusion. However, not all systems adhere to this requirement; for instance, while the systems in Bristol, Ireland, and England include all cases of self-harm irrespective of method, the Hunter Area Toxicology service only uses self-poisoning cases, resulting in an underrepresentation of cases.

Furthermore, the WHO (2016) recommends the use of International Classification of Diseases (ICD) codes to achieve consistency and uniformity. However, in more recent years there has been a push to move towards the use of SNOMED-CT codes worldwide. Although SNOMED-CT codes include a larger, more specific list of clinical terms, the use of such codes has been inconsistently applied both within and between ED sites (Brink et al., 2023). Additionally, administrative datasets vary in the completeness of coding. For this reason, most existing surveillance systems combine data from multiple sources. However, data sources vary between systems. In Bristol and Ireland, for example, potential cases are identified through electronic searches of ED records, while in the Multicentre Study of Self-Harm, England, cases are identified through psychosocial assessment and psychiatric records, supplemented by electronic searches of ED records for non-assessed patients (Witt & Robinson, 2019).

Second, the involvement of stakeholders from the outset is important for both developing and maintaining these systems. Collaborative work with clinicians will allow for a better understanding of clinical demands and help to identify any issues with the services and data recording processes/terminology used. To engage stakeholders, the WHO (2016) recommends all systems publish annual reports; for example, the Multicentre Study of Self-Harm in England provides updates every six months.

Third, supporting research innovation was identified as a further challenge. As noted above the WHO (2016) recommends all systems regularly produce reports to disseminate their work; however, there is often tension between the relative importance associated with reports compared to peer-reviewed academic journals (Witt & Robinson, 2019). Issues in supporting research also coincide with the stakeholder reporting requirements and whether data are maintained by the research team or by the hospital. Hospitals are also often wary of sharing data in fear of impacting patient privacy.

Finally, a further challenge to existing suicide surveillance systems is a lack of ongoing funding. While the WHO (2016) recommend that, where possible, systems should receive funding from government sources, most existing services rely on multiple, limited, and often short-term funding streams (Witt & Robinson, 2019). In relation to data collection, while a number of existing systems have utilised hospital-based clinical staff to undertake data collection (Griffin et al., 2015), high working pressures have resulted in staff often experiencing difficulties balancing clinical responsibilities with data collection requirements (Hawton et al., 2006). Securing additional ongoing funding would mean services are able to hire additional support staff to assist with data collection (Witt & Robinson, 2019). Indeed, in a pilot of a self-harm surveillance system in India, a lack of administrative staff to assist with data collection was identified as the single largest barrier to the successful implementation of the system (Rajendra et al., 2015).

1.7. Theories of Suicide

While research has revealed several risk factors associated with increased suicide risk, as highlighted above, less is known about the diverse factors (e.g., psychological, biological, environmental) that may culminate together to engender suicidal crisis, and the subsequent progression to suicide-related actions (e.g., plans and attempts) (O'Connor & Portzy, 2018). To advance understanding of how and why suicide may occur, several theoretical models have been proposed (e.g., Interpersonal Theory of Suicide (Joiner et al., 2009); see Social Determinants of Suicide and Self-Harm Model described above (Pirkins et al., 2023)). Until recently, however, there has been an absence of comprehensive theoretical models that predict the emergence of suicidal crisis distinct from the transition between suicidal crisis and suicide attempts. For the purpose of this thesis, the Integrated Motivational-Volitional Theory will be discussed below, as this is one model that does highlight the distinction and transition between suicidal ideation and behaviours.

1.7.1. The Integrated Motivational-Volitional Theory of Suicide

The Integrated Motivational-Volitional Model of Suicidal Behaviour (IMV) was first proposed in 2011 (O'Connor, 2011) and refined in 2018 (O'Connor & Kirtley, 2018). The model comprises three phases which recognise the complex interplay of biology, psychology, environment, and culture in suicide ideation (O'Connor, 2011). The first phase is the pre-motivational phase which encompasses the biopsychological- and vulnerability-related risk factors and negative life events attributable to the development of suicidal ideation and intent (O'Connor & Kirtley, 2018). The second, motivational phase describes the emergence of suicidal ideation which is underpinned by feelings of defeat and/or humiliation, and entrapment (O’Connor & Kirtley, 2018). The translation of these feelings into suicidal ideation is facilitated by motivation moderators (e.g., social support, thwarted belongingness) which either exasperate or attenuate the entrapment-suicidal ideation relationship (O’Connor & Kirtley, 2018). The volitional phase is the final aspect of the IMV model in which volitional factors must be present to facilitate the translation of suicidal ideation into behaviours. A key addition to the 2018 revision included further specification of volitional moderators from suicidal ideation and intent to suicidal behaviour, namely: access to means, planning, exposure to suicidal behaviour, impulsivity, physical pain sensitivity, fearlessness about death, mental imagery and past suicidal behaviour (O’Connor & Kirtley, 2018).

Various components of the IMV Model have been empirically tested and validated. For example, Cleare and colleagues (2021) investigated psychological factors selected from the IMV model, to examine the characteristics of self-harm with and without suicidal ideation in individuals who had recently been admitted to hospital for self-harm. Authors reported that the suicide attempt group had higher levels of defeat, entrapment, acquired capability and impulsivity compared to the non-suicidal self-harm group (Cleare et al., 2021). These findings highlight support for components of the IMV model and the importance of exploring the differences between those with suicidal ideation and individuals engaging in suicidal behaviours. The IMV is relevant to the present thesis as it can help to identify factors that will lead to people attending EDs for suicidal distress and behaviours. These factors are explored empirically in Chapter 4.

1.8. Individual and Societal Impact of Suicidal Crisis and Behaviours

Experiences of suicidal thoughts and/or behaviours not only cause distress for the individual but are also associated with a range of negative outcomes such as increased antisocial behaviour, emotional distress, anger problems, health risk behaviours, and decreased self-esteem (Laye-Gindhu & Schonert-Reichl, 2005). Suicide-related thoughts and behaviours are also repeatedly found to be one of the leading contributors to the global burden of diseases (Naghavi, 2019) and incur large societal costs. As well as associated costs to mental health services (Vigo et al., 2019; Naghavi, 2019), the increased likelihood of unemployment, reliance on welfare, and contact with criminal justice services lead to much wider economic implications (Gunnell et al., 2004). Beyond the governments’ obvious moral obligation to reduce individual suffering, they must also recognise the long-term socioeconomic benefits of earlier and effective intervention.

In the past decade, secondary healthcare services have been recognised as a key setting for suicide prevention and intervention (John et al., 2022). The importance of investing in suicide prevention and early intervention is increasingly recognised, with emphasis on intersectional approaches including health, education and family support systems (Standley, 2022). Greater attention has therefore been placed on the role of secondary healthcare services, particularly EDs, in supporting people experiencing suicidal crisis (Siry et al., 2021; McCarthy et al., 2023; Ashworth et al., 2022; Ashworth et al., 2023).

1.9. Suicide Prevention Policy

In recognition of the direct and wider indirect effects of suicide, suicide prevention has become a key public health priority both globally and locally within the UK. The Comprehensive Mental Health Action Plan 2013-2030 (WHO, 2018) offers a global strategy to promote positive mental health and wellbeing, prevent the onset of mental health conditions for those at risk, and to achieve universal coverage for mental health services. The plan covers four main objectives: "*to strengthen effective leadership and governance for mental health; to provide comprehensive, integrated and responsive mental health and social care service in community-based settings; to implement strategies for promotion and prevention in mental health; to strengthen information systems, evidence and research for mental health*" (WHO, 2021 p.5). Underpinning each of these objective global targets, suicide prevention has been recognised as a key priority and actions have been identified to develop and implement comprehensive national strategies for the prevention of suicide.

Further to this, the WHO (2018) identified barriers to implementing national suicide prevention strategies. Table 2 below presents the identified barriers of particular importance to the current thesis research:

Table 2. Barriers to Consider When Implementing National Suicide Prevention Strategies (adapted from WHO, 2018).

WHO Barrier	Description of the Barrier	How to Overcome the Barrier
Training	Healthcare workers may not be prepared or competent to identify and manage suicidal behaviours. Additionally, the quality of care provided may be inadequate and inconsistent.	Train specialised and non-specialised health workers in the assessment and management of suicidal behaviours and ensure these workers meet competency requirements.
Access to Services	Limited health or social care coverage reduces the ability to implement the interventions or follow-up needed for those who have attempted suicide.	Train community workers; establish self-help groups and peer support; explore digital platforms.
Continuity of Care in the Health-Care System	Different services and health workers who are not linked and not in communication with each other cannot keep track of people seeking help and therefore continuity of care may be interrupted.	Promote follow-up care, referral, exchange, meetings and joint training, to strengthen care provided. Promote integration of services and multidisciplinary treatment as this can promote continuity of care.
Data Collection	Lack of data and information hinders prioritisation and resource allocation by decision-makers. Inadequate data collection throughout the implementation process can lead to resources being wasted on ineffective interventions.	Establish and strengthen surveillance systems for suicide and suicide attempts; surveillance should be considered a core element of suicide prevention; monitor the effectiveness on primary outcomes with accurate data collection, enabling subsequent adjustments to enhance effectiveness.

In the UK, the national suicide prevention strategy, ‘Preventing Suicide in England: A Cross-Government Outcomes Strategy to Save Lives’ was first published in 2012 (Department of Health, 2012). Its key aims were to reduce the suicide rate in the general population in England and improve support for those bereaved or affected by suicide. Of particular importance, one key area for action specified related to supporting research, data collection, and monitoring (Department of Health, 2012). The Department of Health and Social Care published five progress reports on the strategy between 2014 and 2021, with each report highlighting current trends, progress to date, and future actions. The most recent report (Department of Health and Social Care, 2021) included the need for additional government support and funding for suicide prevention to address pressures caused by the coronavirus (COVID-19) pandemic.

In 2016, the UK government’s Health Committee published an interim report on suicide prevention (Health Committee, 2016), which was intended to inform the Government’s third progress report on the suicide prevention plan. The Committee made recommendations in five areas: implementation, targeted and universal support service for people vulnerable to suicide, sharing information, improving data and media guidelines (Health Committee, 2016). Furthermore, the National Health Service (NHS, 2019) Long Term Plan set out key ambitions for the health service, making suicide reduction an NHS priority. The plan acknowledged key areas of success, such as a significant reduction in male suicides and the implementation of a multi-agency suicide prevention plan in every local area. It also stated that the NHS was on track to deliver a 10% reduction in suicide rates by 2020/21 (NHS, 2019), despite latest data showing no statistically significant change in suicide rates in England between 2015 and 2021 (ONS, 2022).

The NHS plan further highlights areas of action for suicide prevention but lacks specificity related to suicidal crisis. For instance, the plan relates to ensuring people experiencing a mental health crisis will have 24/7 access to mental health support, and that clear standards are available for access to urgent and emergency mental health care. There is also a push for alternative forms of provision for those in crisis, such as crisis lines, as an alternative option to EDs for those who are experiencing a crisis, but do not necessarily have medical needs that require ED admission (NHS, 2019).

In 2023, the UK government launched a suicide prevention strategy for England for the next five years (2023-2028) (Department of Health and Social Care, 2023). The actions and priorities in the strategy have been informed by evidence, data, and engagement with people with expertise and lived experience in suicide prevention. Of particular importance to this thesis, priorities for action include: (1) improving data and evidence to ensure that effective, evidence-informed and timely intervention continue to be developed and adapted, (2) addressing common risk factors linked to suicide at a population level to provide early intervention and tailored support and (3) providing effective crisis support across sectors for those who reach crisis point (Department of Health and Social Care, 2023).

1.10. Contact with Services Prior to Suicide

Suicide prevention is considered a multisector public health responsibility (Mughal et al., 2021) and many people who die by suicide have been in contact with a health service in the year before their death (De Leo et al., 2013; Pirkis et al., 2020). Health services have a crucial role to play in suicide prevention and data insights are fundamental to safer care.

High demand for health services is an issue of current importance in England, with the rapidly increasing use of primary and secondary care for mental health conditions. Research examining the social determinants of health service use in people with mental health issues reported those with both a physical and mental health condition reported attending the ED (rate ratio [RR] = 4.63) and general practice (GP) (RR = 3.82) more frequently than other groups (Saini et al., 2020). Having a higher number of mental health condition symptoms was also associated with higher ED and GP service use (Saini et al., 2020). Examination of contact with primary and secondary care prior to suicide in Wales from 2000-2017, revealed that in the week prior to death by suicide, 31.4% of individuals contacted health services (John et al., 2020). The last point of contact was most commonly associated with mental health and most often occurred in general practices. In the month before their death, 16.6 and 13.0% of individuals had an ED contact and a hospital admission respectively, compared with 5.5 and 4.2% of controls (John et al., 2020). This suggests that help-seeking does occur in those at risk of suicide and escalates in the weeks before their death; thus, there is a key opportunity to identify and intervene through contacts with services.

Primary care is a setting where most people (up to 85%) who die by suicide have been seen by a general practitioner (GP) in the year before (Luoma et al., 2002; Pearson et al., 2009; Mughal et al., 2021). The rates of suicide-related presentations to primary care are rising, with two-thirds of patients who self-harm presenting to their GP a month prior, and in the month after, a self-harm episode (Houston et al., 2003; Mughal et al., 2020). GPs are responsible for identification and assessment, as well as referring individuals to specialise services where necessary. Thus, GPs act as a gateway to other additional mental health services.

Secondary care services, including outpatient and inpatient facilities, also provide a pivotal role in suicide presentation. A recent systematic review by Witt and colleagues (2023) examined the global prevalence of psychiatric in- and out-patient treatment following hospital-presenting self-harm. Findings across 131 unique studies highlighted one-quarter of people were referred for inpatient psychiatric care, and of those, around one-fifth received treatment. Furthermore, just over one-third of individuals were referred to outpatient psychiatric care, whilst around half of those referred received at least one treatment session (Witt et al., 2023).

Alternative care and support options are also available in the community, for example, third-sector charity organisations. Crisis resolution and home treatment have been proposed as an alternative to acute inpatient care for people in a mental health crisis and have been implemented in various mental health systems worldwide (Llyod-Evans et al., 2020). Their effectiveness, however, has been disputed. Despite this, some evidence has shown the mean number of hospital days per patient within 24 months after the initial crisis requiring hospital admission was reduced by 30.4% when a home treatment team was available (Stulz et al., 2019).

All the services above have the opportunity to work alongside EDs to support people experiencing suicidal crisis. However, due to resource limitations and a lack of alternatives, EDs are increasingly becoming the first point of contact. EDs serve as a safety net, providing 24/7 support for both physical and mental health conditions. As such, primary, secondary and community care often rely on EDs for the provision of accessible and immediate care.

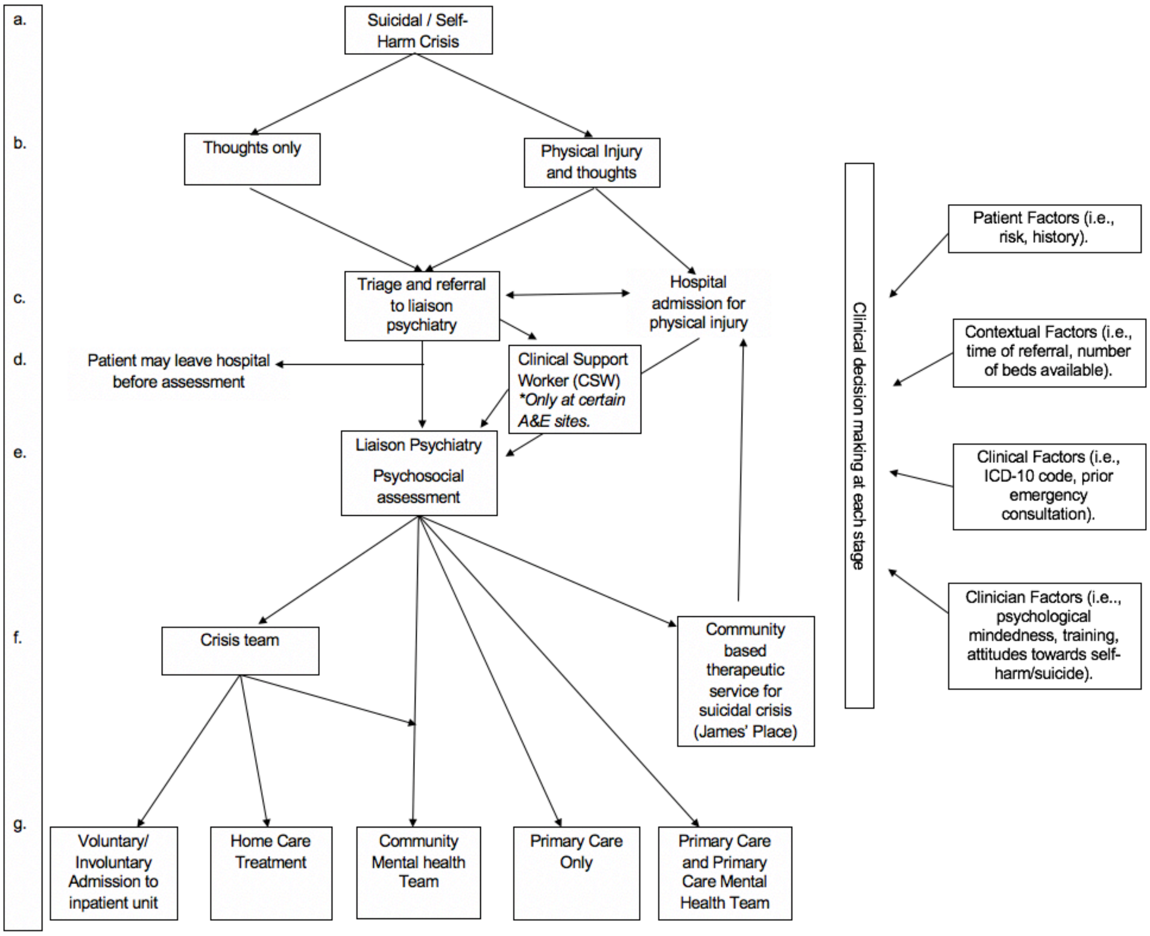
1.11. Emergency Departments as a Context for Supporting People in Suicidal Crisis

As noted above, EDs are often the first point of contact for people experiencing suicidal crisis (Ceniti et al., 2020; Perera et al., 2018); thus, they represent a key setting for suicide prevention and intervention. The number of suicide-related presentations in EDs has significantly increased in the past decade (McManus et al., 2019), making EDs essential entry points for those in crisis. Indeed, the National Institute for Health and Care Excellence (NICE) clinical guidelines highlight the important role EDs have in supporting suicide-related presentations. However, the guidelines fail to include reference to suicidal crisis presentations, in which people are presenting without a need for medical treatment following self-harm or a suicide attempt, for example. This is surprising given that the NICE clinical guidelines in England now include best practice and care for self-harm patients, which covers assessment, management, and preventing recurrence for children, young people and adults who have self-harmed (NICE, 2022; Ross et al., 2023).

1.11.1. Clinical Pathways

Within EDs, specific pathways have been developed to support, assess, and treat people presenting in suicidal crisis, following self-harm and/or after a suicide attempt (see Figure 6).

Figure 6. Summary of Patient Pathways Following Presentation to ED in Suicidal Crisis.



These pathways are designed to ensure timely and appropriate care and provide both physical and mental health support if needed. The core principle is that on arrival at the hospital, patients are directed to a treatment area staffed with appropriate healthcare practitioners to manage their clinical needs. Most people presenting to EDs will self-present, however, other arrival modes include ambulance or police handover. Upon arrival, a person will present to reception – at this point, ED administrative staff will ask about the presenting problem and book the individual in, choosing an appropriate ‘presenting complaint’ code to best describe the reason for the visit. In accordance with the Emergency Care Data Set

(ECDS), patients will be assigned a score of 1 to 5 to highlight the severity of a patient's condition and the urgency with which they need to be seen and assessed by a clinician (see Box 1).

Box 1. ECDS Acuity Coding.

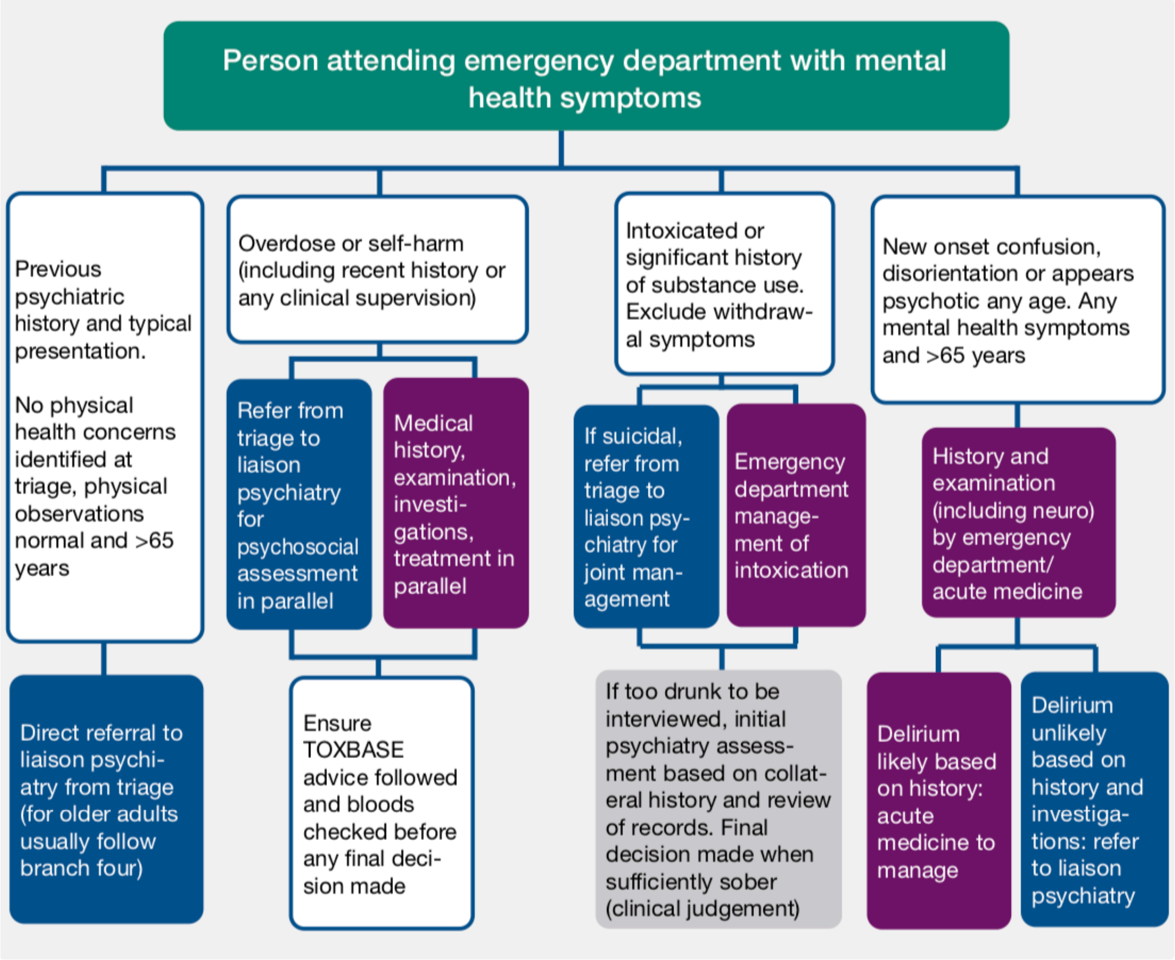
1	Immediate emergency care
2	Very urgent emergency care
3	Urgent emergency care
4	Standard emergency care
5	Low acuity emergency care.

Triage is part of the pathway used to prioritise patient treatment so that the most acutely unwell patients are seen first. This process and model of care is dependent on capacity and demand. When EDs are under pressure, triage may be used to help clinicians identify the order in which patients should be seen, but it can also be part of normal business to support the flow of patients in the ED. Triage involves a face-to-face assessment which may include observations and the use of triaging tools to support decision-making (NHS, 2022).

Following triage, depending on the individual needs and clinician assessment, a person can be admitted into hospital to manage and treat physical injuries or referred to liaison psychiatry for a mental health psychosocial assessment. There is much comorbidity between mental and physical health conditions (Thornicroft, 2011), and there is also a relationship between mental illness and general hospital admission for physical illness (Shoar et al., 2016). As a result of this, many in-patients also require liaison psychiatry input (Ni Mhaolain et al., 2008). Figure 7 highlights a good practice example for ED referral pathways to liaison psychiatry.

Despite recent expansion in liaison psychiatry, there are still many UK hospitals where mental health services insist that a patient be 'medically cleared' before they help them (The Royal College of Emergency Medicine, 2020). The terms 'medically cleared' and 'medically fit' have no standardised definition and appear to be generally used as a shorthand for either confirmation that a patient has no physical or medical needs warranting acute hospital admission or that a patient has had adequate evaluation for medical causes of psychiatric symptoms (Reeves et al., 2010). Such requirements, however, increase the risk of a patient absconding from the ED, particularly if the patient is under the influence of alcohol and/or drugs (The Royal College of Emergency Medicine, 2020). As a result, more recently hospitals in the UK have pushed for a 'Side by Side' approach, in which mental health liaison staff work closely and collaboratively with acute ED staff to support people presenting in crisis (Gillet et al., 2023). Since the introduction of the 'Side by Side' Initiative, research has found there to be more effective and appropriate management of mental health presentations, achieving better mental healthcare in physical healthcare settings (Davies, 2022). Despite this, the initiative is inconsistently applied within and between EDs, potentially due to limited mental health staff availability (Hoffman et al., 2019).

Figure 7. Good Practice Example: ED Referral Pathway to Liaison Psychiatry (taken from Royal College of Emergency Medicine, 2020).



1.12. Importance of Acknowledging Suicidal Crisis as a Distinct Group in EDs

Many people experiencing suicidal crisis seek care in EDs, yet the question has consistently been raised as to whether EDs are equipped, or even the right location, to support people in suicidal crisis (Gursahani et al., 2022). Emergency care of patients with physical injuries (e.g., stroke, trauma, sepsis), is often standardised in the form of protocols (Gursahani et al., 2022; WHO, 2018); multidisciplinary healthcare teams are also typically trained to identify patients with these anatomic or physiological time-dependent conditions. Similarly, guidelines are available for the treatment of physical injuries as a result of self-harm, or injuries following a suicide attempt. However, such protocols and treatment standards are significantly underdeveloped for suicidal crisis presentations where people's needs differ from other presentations requiring physical intervention (Kavalidou et al., 2023).

Despite the increasing incidence of ED utilisation for suicidal crisis presentations, the management of suicidal crisis remains severely underfunded and underexamined in the literature (Chung et al., 2017). Compounding the problem is the lack of a standardised curriculum for emergency psychiatry within emergency medicine or paediatric emergency medicine residency training (Santucci et al., 2003). Directors of training programmes report reliance on "on the job" training to support the acquisition of these skills (Rosen et al., 2008) and as a result, physical health is often prioritised with staff required to attend training on resuscitation or management of physical conditions and injuries over mental health presentations. Therefore, ED staff often lack training in how best to respond and support mental health presentations, in particular those attending in suicidal crisis. Due to this gap in knowledge and training, ED staff may implement restrictive interventions, such as seclusion within the ED, which may induce further adverse psychological outcomes for those under their care (Hall et al., 2016). In addition, ED staff perceive and report deficiencies in the availability of mental health expertise and referral pathways, which presents a major barrier to effective patient care and management (Pawaskar et al., 2022). As such, this thesis is undertaken with the hope of improving access, treatment, support and follow-up care for those experiencing suicidal crisis.

1.13. Pressure on Healthcare Services

The number of presentations to EDs following self-harm has significantly increased in England over the last decade (McManus et al., 2019). The high patient demand, in combination with more acute needs, represents a significant challenge for healthcare services (McCabe et al., 2020). While the demand for EDs has been increasing, austerity measures and funding cuts have had a significant impact on NHS services in the UK. These measures have involved cutting public sector budgets, including healthcare funding, which have had a far-reaching effect on the quality and accessibility of emergency care (Kerasidou & Kingori, 2019). EDs were one of the areas most impacted by austerity, which has increased pressure on the service, having a negative effect on patient outcomes and waiting times (Kerasidou & Kingori, 2019).

ED overcrowding is a widespread problem and a potential source of patient harm (Kelen et al., 2021). Long waiting times for mental health patients in particular can negatively impact on patient outcomes, and delays in treatment can increase distress (McCarthy et al., 2023). The lack of resources and availability of services, amplified by funding cuts, also have significant implications for patients. Further resource constraints are evident in psychiatric care; a survey carried out by the Royal College of Psychiatrists (2021) reported that 85% of 320 psychiatrists stated there was more pressure on beds compared with previous years. The vast majority (92%) estimated there were less than 5% of beds available in their Trust, compared with the recommended threshold of 15%. The availability of resources was also shown to have a significant impact on decision-making, with a quarter of respondents stating they would delay admission and instead treat in the community, and a third noting they would look for an out-of-area placement (when a person with acute mental health needs who requires inpatient care is admitted to a unit that does not form part of the usual local network of services) (Royal College of Psychiatrists, 2021).

Beyond EDs, there is a larger issue of service access. For example, high levels of stigma and low visibility of available services often preclude people from accessing support in a timely manner (Robinson & Bailey, 2022). Aside from the need for extra funding, there has been the development of some new approaches to support people in crisis, e.g., crisis line services in the UK. Initial evaluations of these services have shown people value the services (Gould et al., 2021; Gould et al., 2022), however, to date, limited evidence exists for their effectiveness.

1.14. Pressure on Healthcare Staff

In addition to the contextual pressures on EDs, the inadequate access to inpatient and outpatient mental health care, and frequent patient “boarding” in the ED (Case et al., 2011; Zhu et al., 2016), healthcare staff face a number of further challenges which impact on their ability to provide effective and timely support. Staff have often noted not having appropriate time and resources to build rapport with people presenting in suicidal crisis (Petrik et al., 2015) and that the training, or lack of, inadequately prepares them to support mental health presentations, specifically the causes, crisis intervention, and appropriate referral options for suicidal crisis attendances (Chapman & Martin, 2014; Rayner et al., 2019). Staff burnout is also a significant healthcare concern, which can have implications for patient care, staff wellbeing, and the overall functioning of the healthcare system (Johnson et al., 2018). In particular, the staff regularly supporting and managing suicide-related presentations are more susceptible to emotional exhaustion, moral distress, and compassion fatigue

(Mckenzie et al., 2017), which can contribute to the erosion of empathy for these patients (Rayner et al., 2019).

Forty years ago, Jeffrey (1979) published a paper describing how some ED providers feel they have no obligation to treat patients presenting to the ED with certain conditions, such as suicide attempts and drug overdoses, whom they characterise as “rubbish”. Some providers felt these patients brought their troubles on themselves, in contrast to “real” medical complaints, and treated them punitively and without empathy. Although providers’ perspectives have evolved, recent research on patients’ perspectives suggests that some of these negative interactions persist (Cullen et al., 2023). For example, one study noted almost half of individuals presenting following self-harm (n=465) felt punished or stigmatised by staff (Cerel et al., 2006), while another noted negative interactions with ED providers as a source of stress for patients (Guzman et al., 2020). Young adults presenting to the ED following self-harm also describe negative encounters, including withholding treatment, depersonalised care, and being told they are wasting time that could be used for “real” patients (Owens et al., 2016). These types of encounters can exacerbate feelings of shame which, in turn, may increase suicidal thoughts or behaviours (Farrelly, 2015).

1.15. Decision-Making

As highlighted, the ED environment is complex and dynamic, requiring staff to make decisions under time pressure and with multiple demands from various stakeholders, such as administrators, patients, and colleagues (Al-Azri, 2020; Laxmisan et al., 2007). Assessing risk in the face of uncertainty is a critical component of ED staff decision-making, and theories of decision-making can provide valuable insights into the complexity of providing care for this patient group. However, it is only in the past few years that the application of cognitive issues underpinning decision-making has been considered in regard to emergency medicine (Croskerry, 2000; Brehaut et al., 2007).

Dual-process psychological theories argue that clinical decision-making is achieved through a combination of experiential (fast and intuitive) and rational (slower and systematic) cognitive processes. Dual-process theories suggest that decisions are made by two models: system one and system two (Croskerry & Norman, 2008; Sladek et al., 2008). System one, also known as experiential decision-making, involves intuitive decisions and the use of heuristics or rules of thumb. System two, also known as rational decision-making, incorporates critical evaluation of evidence and a structured process that requires more time and conscious effort (Calder et al., 2012). Both systems interact with each other; however, it has been demonstrated that people usually have an affinity for one decision-making system over another (Witteman et al., 2009). It has been proposed that ED staff use both systems in their work, whereby experiential decision-making is a necessity for rapid, life-saving decision-making (e.g., the decision to defibrillate), while rational decision-making would be appropriate to navigate complicated diagnostic or management issues (e.g., the decision to admit) (Croskerry et al., 2009).

A second proposed model of decision-making relevant to ED clinical practice is shared decision-making (SDM), which has been gaining increased recognition in emergency medicine as of late (Schoenfeld et al., 2019; Probst et al., 2017). SDM is based on the notion that ED staff are experts on medical elements and aspects of treatment, and patients are experts on what matters most to them (Bomhof-Roordink et al., 2019; Spatz et al., 2017). ED staff report using SDM in about half of encounters, when they believe it to be appropriate, but cite multiple barriers to widespread use, such as some patients preferring that doctors make the decision, time pressures, and some staff not being trained in or comfortable implementing SDM (Kanzaria et al., 2015).

While little is known regarding ED staff decision-making generally, even less work has been conducted on decision-making specifically for suicidal patients. While some studies have reported referral rates from ED liaison services to community services (e.g., Woodgate & Garralda, 2006), very few have investigated the processes and reasoning behind the decisions made within the ED. ED staff report often relying on their intuition and judgements when dealing with the challenges and complexity of ED presentations, rather than on published practice guidelines. In the context of suicide-related presentations, it is also important to note that general medical ED staff do not have specific education or training on suicide and self-harm. Conversely, although mental health staff (e.g., liaison psychiatry) do have specific training and knowledge, they have no guidance or training on *how* to make decisions, i.e., whether to admit a person to inpatient facilities (Jasmin et al., 2019).

Studies on decision-making in mental health settings have tended to concentrate on disorder-based and patient-based factors (Riecher et al., 1991; Rabinowitz et al., 1994; Goldberg et al., 2007), such as patient demographic factors, including age, sex, ethnicity (Griffin et al., 2020), while others looked at previous mental health risk factors (i.e., prior hospitalisation) (Miret et al., 2011; So et al., 2021). However, there has been little empirical analysis of how decisions are made in practice, and the additional factors which may impact on staff decision-making (Nathan et al., 2021).

1.16. Summary of Gaps in the Literature

EDs have been identified as a key setting for suicide prevention and intervention (Miller et al., 2017; Dimeff et al., 2023), yet we know very little about suicidal crisis presentations. Existing research has primarily focused on self-harm attendances, failing to acknowledge those individuals presenting with suicidal thoughts but no physical injuries as a result of self-harm and/or following a suicide attempt. This has resulted in a lack of understanding of people presenting to EDs in suicidal crisis, despite suicidal ideation being one of the strongest risk factors for future death by suicide (Rossom et al., 2017). As an evolving field, there is a need for a greater understanding of suicidal crisis presentations, and how poor data recording, or lack of, is holding back much needed improvements to the service. Prior to the main thesis research, an Editorial was published in the British Medical Journal to identify and acknowledge these issues and address the overall lack of research into suicidal crisis (Chapter 3 - McCarthy et al., 2021).

Poor coding practices and data capture have resulted in the determinants of suicide and self-harm, as well as the social determinants of ED attendance, being poorly understood. Research has typically focused on individual-level factors and there is a greater need to explore a wider range of health determinants to better understand health inequalities and implement effective community-level interventions. Existing research has highlighted the need for more knowledge about the determinants of ED attendance for people in suicidal crisis, in particular for areas of lower SES (Saini et al., 2020); thus, Chapter 4 (McCarthy et al., 2023a) will explore this further. Self-harm was used as a proxy measure in this Chapter, as no comparable data exists on ED attendances for suicidal crisis due to poor coding practices.

EDs are recognised as a 24/7 accessible setting for immediate physical and/or mental health support or treatment, thus making ED staff the first point of contact for people in suicidal crisis. However, surprisingly minimal training is provided to certain groups of staff on how to support and manage these presentations. To date, no systematic reviews specifically focus on ED staff decision-making for this patient group. The majority of research is conducted in psychiatric hospital units, which often reflect more severe and complex cases; thus, there is a large cohort of patients who are not captured in this research. Further, a plethora of existing literature tends to focus solely on patient-related factors, such as previous self-harm, to influence decision-making. Limited attention has been paid to additional factors, such as the hospital environment, which may also have an influence. Given the current climate of limited hospital resources and funding, this now more than ever, is an important consideration. This thesis fills the identified gap by presenting a systematic literature review of the factors influencing ED staff decision-making for people attending in suicidal crisis (Chapter 5 - McCarthy et al., 2023b). In addition, this thesis also seeks to acknowledge other factors, in addition to patient-related factors, which may influence staff decision-making.

As stated, ED staff play an important role in supporting suicidal crisis presentations. However, there is generally a lack of qualitative research exploring perceptions and staff experiences. Existing studies therefore do not account for how staff feel supporting this patient group, what they need and what would work in clinical practice. Furthermore, to date, existing literature only tends to examine and recruit one staffing group (e.g., triage nurses). Administrative staff have often been excluded from research, despite being a person's initial contact with the ED and this contact being linked with patient satisfaction. As such, this thesis sought to utilise the factors identified in Chapter 5 to inform the development of a qualitative interview schedule to address this gap in the literature and better understand different decision-making drivers for staff along the clinical pathway (Chapter 6 – McCarthy et al., 2023c).

In the context of increased responsibility for EDs to support and manage suicidal crisis presentations, we know very little about the number of people presenting in suicidal crisis, and how these attendances are being coded on hospital systems. Previous work has typically only examined self-harm presentations and has often been limited by the search strategy used to identify presentations of interest. For example, Ballard et al. (2015) identified self-harm presentations solely from 'presenting complaint' codes. Administrative hospital data is reported to underestimate self-harm presentations by as much as 60% (Clements et al., 2016); thus, Chapter 7 aimed to adopt a wider search strategy utilising 'presenting complaint' as well as primary and secondary diagnosis codes, to identify presentations which would otherwise be missed. A further lacuna of previous research is the lack of investigation into the factors that underpin inaccurate and inappropriate coding by staff. We aim to address this by utilising a mixed-methods approach.

Finally, it is also important to recognise that not everyone experiencing suicidal crisis will attend the ED for support. This was particularly key during the COVID-19 pandemic, in which the UK government implemented a series of guidelines requiring people to stay at home and restrict contact with others (Burton et al., 2023). Existing research and theory, however, have consistently noted the impact of loneliness on suicidal ideation and suicidal behaviours – for example, evidence highlights lower levels of social support significantly predict ED attendance for self-harm (McCarthy et al., 2023a). In response to the pandemic, crisis line services across the Merseyside and Cheshire regions were implemented ahead of schedule. To date, no formal analysis has been conducted on the crisis line service in Cheshire, thus, Chapter 8 (McCarthy et al., 2023d) aimed to fill this gap.

In summary, this thesis aims to address a number of gaps in the current literature (see Table 3). With both the NICE self-harm guidelines (2022) and the new suicide prevention strategy for England (Department of Health and Social Care, 2023) highlighting the role of data-driven research, exploring how suicidal crisis presentations are recorded and why this is an important new avenue for research. While some studies have been conducted, they have often been overseas, for example in America (i.e., Randall et al., 2017) and Australia (i.e., Sveticic et al., 2020), meaning that findings are not transferable to the UK given the differing models of healthcare and the adoption of a National Health Service in the UK. Therefore, more work is needed in the UK to better understand ED attendances, coding practices, and staff decision-making for people presenting in suicidal crisis.

Table 3. Summary of Gaps in the Literature and Related Chapter in Thesis.

Gap in the Literature Identified:	**Thesis Chapters Which Address This:**
Existing research focused on self-harm ED attendances. This has resulted in a lack of understanding of people presenting to EDs in suicidal crisis, specifically those individuals with suicidal thoughts but no physical injuries as a result of self-harm and/or a suicide attempt.	Chapter 3: McCarthy, M., Saini, P., Nathan, R., & McIntyre, J. (2021). Improve coding practices for patients in suicidal crisis. BMJ, *375*.
The social determinants of self-harm and related ED attendance are not well understood, particularly within deprived communities. Existing research has often been limited in the measure of SES (i.e., solely focusing on individual level deprivation).	Chapter 4: McCarthy, M., Saini, P., Nathan, R., & McIntyre, J. (2023a). Predictors of self-harm and emergency department attendance for self-harm in deprived communities. *International journal of injury control and safety promotion*, 1-7.
No systematic evidence examining ED staff decision-making. Research looking at decision-making factors, focus primarily on patient-related factors; limited research on the impact of the hospital or staff-related factors.	Chapter 5: McCarthy, M., McIntyre, J., Nathan, R., & Saini, P. (2023b). Factors influencing emergency department staff decision-making for people attending in suicidal crisis: a systematic review. *Archives of suicide research*, 1-15.
Lack of understanding of a *range* of ED staff perspectives and experiences of supporting people attending in suicidal crisis. Limited qualitative research in this area.	Chapter 6: McCarthy, M., McIntyre, J., Nathan, R., Ashworth, E., & Saini, P. (2023c). Staff perspectives of emergency department pathways for people attending in suicidal crisis: A qualitative study. *Journal of Psychiatric and Mental Health Nursing*. https://doi.org/10.1111/jpm.12991

Although data is available on self-harm attendances and coding practices, no comparable data exist for suicidal crisis ED presentations. Previous research has been limited in their search strategies to identify suicide-related presentations and to date no research has explored the factors that underpin inaccurate and inappropriate coding by staff.	Chapter 7: McCarthy, M., Saini, P., Nathan, R., Ashworth, E. & McIntyre, J. (2023). "No Abnormality Detected": A Mixed-Methods Examination of Emergency Department Coding Practices for People in Suicidal Crisis. (Revised and Resubmitted – Achieves of Suicide Research).
To date, no formal analysis has been conducted on the crisis line service in Cheshire. Limited exploration into the clinical pathways of people contacting a crisis line service.	Chapter 8: McCarthy, M., McIntyre, J., Nathan, R., Ashworth, E., & Saini, P. (2023d). Socioeconomic Predictors of Crisis and Clinical Pathways Among People Contacting a Mental Health Crisis Line. *Health Services Insights*. https://doi.org/10.1177/11786329231212120

1.17. Chapter Summary

This chapter provided information regarding the wider context of the thesis in terms of key concepts and terminology, suicide prevalence rates, sociodemographic risk factors, and existing suicide prevention policy. Furthermore, this chapter positioned EDs as a key setting for suicide prevention and intervention, whilst acknowledging the key pressures on services and healthcare staff. The importance of suicide surveillance systems was then discussed, along with the identified challenges such systems face. Clear gaps in the literature were identified. The following chapters in the thesis provide an overview of ED coding practices and staff decision-making for people presenting in suicidal crisis. For each of the studies presented, the rationale, aims and research questions are included along with justification of the methodology.

1.18. Thesis Structure

This PhD thesis makes a critical contribution to the literature and clinical practice regarding ED coding practices and staff decision-making for people attending in suicidal crisis. Although research is emerging that focuses on EDs as a setting for suicide prevention, to date there is no research examining suicidal crisis coding practices, staff decision-making, and the reasons behind inaccurate coding using a comprehensive and mixed-methods approach. To address the identified gaps in the literature, five unique streams of work were developed adopting a range of methods and analyses. Figure 8 displays the link between thesis chapters.

1. Improve coding practices for people in suicidal crisis (McCarthy et al., 2021).

This Editorial summarises the key issues facing ED departments in terms of coding practices. It sets the scene for the thesis by concisely summarising the key problems that need to be solved and lays down a blueprint for how they can be solved with appropriate research strategies.

2. Predictors of self-harm and emergency department attendance for self-harm in deprived communities (McCarthy et al., 2023a).

Utilising cross-sectional survey data, this study explores the demographic, health and socioeconomic predictors of self-harm and related ED attendances using quantitative methods and inferential statistics in the form of logistic regressions.

3. Factors influencing emergency department staff decision-making for people attending in suicidal crisis: A systematic review (McCarthy et al., 2023b).

The aim of this systematic review is to examine patient, contextual and staff factors influencing ED decision-making and how these specific factors can affect clinical pathways for people presenting in suicidal crisis. Narrative synthesis was conducted to examine the findings of the included studies.

4. Staff Perspectives of People Attending Emergency Departments in Suicidal Crisis: A Qualitative Study. (McCarthy et al., 2023c).

This study explores and synthesises the perspectives of ED administrative, medical and mental health staff working with people presenting in suicidal crisis. Semi-structured interview data were analysed using reflexive thematic analysis.

5. “No Abnormality Detected”: A Mixed-Methods Examination of Emergency Department Coding Practices for People in Suicidal Crisis.

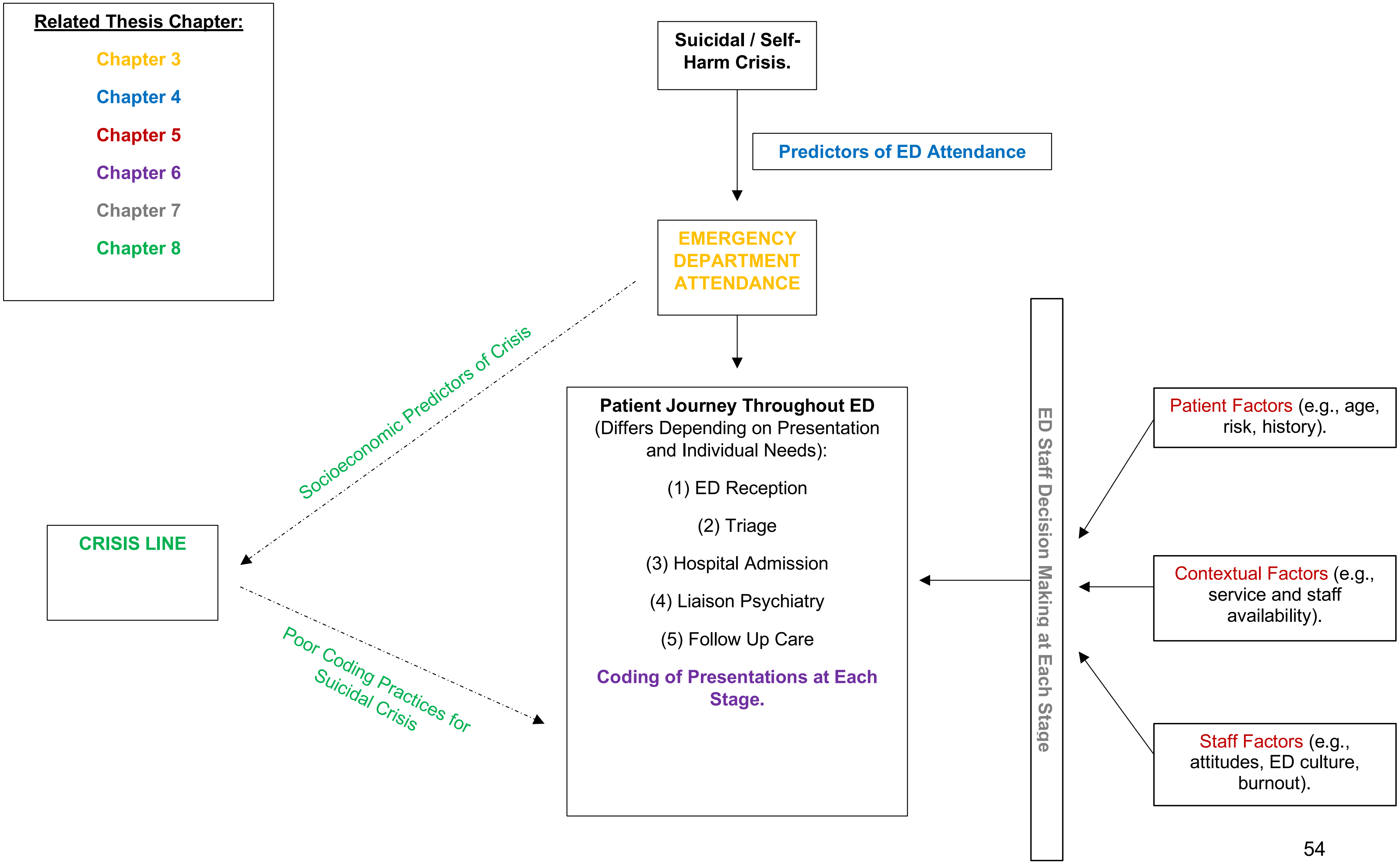
A mixed-methods study was conducted with the aim of examining current suicide-related ED coding practices and identifying the factors that contribute to staff decision-making and patients receiving the incorrect or no code. Descriptive analyses were conducted to examine the quantitative coding data across the six participating EDs. The purpose of the qualitative data was to provide an explanatory role, supporting the quantitative findings.

6. Socioeconomic Predictors of Crisis and Clinical Pathways Among People Contacting a Mental Health Crisis Line (McCarthy et al., 2023d).

The aims of this study are to explore the referral pathways for people calling a UK mental health crisis line for self-harm, risk to self and/or overdose and examine the socioeconomic factors reported by those using the service. Descriptive and chi-squared analyses were conducted to produce a clinical and demographic profile of callers.

I have focused on submitting papers for publication as soon as each study was completed. This was an important goal for both my supervisors and I, due to the clinical relevance and implications this research could have within EDs. As such, the current thesis is constructed in a manner that presents individual studies as they have been prepared for publication in peer-reviewed journals. A more detailed methods and discussion have been included in each chapter, linking together the findings.

Figure 8. Link Between Thesis Chapters.



Chapter 2: Methodology

This chapter will justify the conceptual framework and methodological approaches used in this thesis. I will discuss the research paradigm debate on how to generate knowledge and will provide subsequent justification for the methodological positions taken throughout this work. Following this, I will describe the ED as the context of this research, making reference to the use of patient and public involvement and co-production. The rationale and methodological justification for each included study will then be discussed in turn. Consideration is given to the impact of the COVID-19 pandemic on the research; in particular, the methodological impacts for data collection, as well as the ethical considerations for the thesis research. Further details of the methods, limitations of research designs, and analyses used for each study are discussed in detail in each individual paper.

2.1. Epistemology

Research can be approached from various perspectives or paradigms. A paradigm has been defined as an “entire constellation of beliefs, values, techniques, and so on, shared by members of a given community” (Kuhn, 1962 p.162). Research paradigms can have a number of implications for how research is conducted and how knowledge is accumulated. Before starting the present thesis, it was important to acknowledge what research goals were important to me, my ontological and epistemological beliefs about the nature of reality and knowledge acquisition, and the shared beliefs and practices within the field (Morgan, 2007).

Epistemological stances are considered to be distinct belief systems that influence the ways in which research questions are asked and answered (Morgan, 2007), of which there are four main standpoints: post-positivist, constructivist, transformative, and pragmatic (Mertens, 2012). Although reviewing these in detail is beyond the scope of this research, at its purest form, constructivist epistemologies generally take a qualitative approach, while post-positivist epistemologies utilise quantitative methods. For several decades, paradigm debates have placed quantitative and qualitative methodological approaches in opposition (Tashakkori & Teddlie, 2003). This stems from differences in ontological and epistemological positions. Ontology is defined as “*the study of being*” (Crotty, 1998 p.10); underpinned by our beliefs about the structure and nature of reality (Kivunja & Kuyini, 2017), the classification and properties of different entities that exist, and how these interact (Guba & Lincoln, 1989). On the other hand, epistemology “*a way of understanding and explaining how I know what I know”* (Crotty, 1998 p.3.) examines what counts as knowledge, how this knowledge is generated, what validity the researcher’s knowledge claims have, and the relationship between the researcher and the researched.

Quantitative methodological approaches have been philosophically positioned as the ‘gold standard’ research approach, derived from a positivist paradigm (Scotland, 2012). Positivism assumes that the researcher should be neutral in their position, favour experimental investigation, hypothesis testing, and deductive reasoning (Khaldi, 2017). In this sense, confounders are controlled, and research involves objective measurement using closed questionnaires, randomisation, and blinding, as well as statistical analyses (e.g., descriptive analyses, inferential statistics) and large sample sizes (Guba & Lincoln, 1994; Scotland, 2012). On the other hand, qualitative research, underpinned by a constructivist paradigm, states that there are many social realities which are subjectively informed and individually created; thus, differing from person to person (Sale et al., 2002; Scotland, 2012). This means that research findings are linked to an individual's social world, culture, values, and social context (Yardley & Bishop, 2015). Research findings are therefore developed and understood by the interaction between the researcher and participant; taking into account the subjective interpretations of both and how their individual views and experiences may influence meaning and interpretation (Yardley & Bishop, 2015; Scotland, 2012). As a result, smaller, purposeful samples are preferred to facilitate data collection through the use of open-ended interviews, focus groups, and observations (Scotland, 2012). Generalisability is dismissed in favour of transferability (Slevitch, 2011), in which the reader can determine whether the findings and outcomes can be applied in other contexts (Korstjens & Moser, 2018).

2.2. Pragmatism

The dispute between the best epistemological approach to use is longstanding, with quantitative and qualitative research viewed as dichotomous methods. This has led to what is known as the 'incompatibility thesis', which posits that quantitative and qualitative methods cannot and should not be mixed (Onwuegbuzie & Leech, 2005). However, some researchers recognise the importance of using both methods to "draw from the strengths and minimise the weaknesses of both"; this has led to a third research paradigm known as pragmatism (Johnson & Onwuegbuzie, 2004, p.15). Pragmatism emphasises creating knowledge and addressing problems through inquiry and appropriate lines of action; focusing on finding workable approaches to problem-solving to answer specific questions (Morgan, 2014).

However, pragmatism has been subject to criticism from researchers for its 'what works' attitude. Some critics have argued that pragmatism can lead to a lack of theoretical depth and coherence in research (Philips, 1995) and it has been posited that pragmatism lacks clear guidelines for conducting research, which can make it challenging for researchers to apply the philosophy in practice (Creswell & Plano Clark, 2017). Despite this, researchers have emphasised the importance of having a flexible and adaptive approach to research, that is problem-oriented, focusing on finding practical solutions to real-world issues (Biesta, 2010). Hence, the pragmatic paradigm supports the use of mixed methods in research (discussed further in the following section), arguing that there is not one appropriate set of methods; instead, the method should be chosen based on what fits with the research question in a specific study (Mertens, 2012). It suggests that research methodologies should be mixed in ways that provide appropriate and new opportunities for effectively answering important research questions. Thus, a pragmatic approach was taken in the current thesis as it allows for both quantitative and qualitative methodologies to be used simultaneously, in order to effectively and comprehensively address the existing gaps in the literature.

2.3. Pragmatic Mixed Methods

Mixed methods research (MMR) has emerged as a dominant paradigm in recent years, particularly in the field of psychology (Povee & Roberts, 2015; Tashakkori & Teddlie, 2012). It aims to take the strengths from both approaches to best answer the research question; essentially combining quantitative methods (data that are consistent, replicable, and that can be compared) and qualitative methods, where the objects of inquiry are subjectivity, meaning, or open-ended information acquired by speaking to someone or interrogating text or media (Kral et al., 2012). However, inconsistencies still exist as to what constitutes MMR (Moseholm & Fetters, 2017). Although MMR was defined by Tashakkori and Creswell (2007) as “research in which the investigator collects and analyses data, integrates the findings and draws inferences using both qualitative and quantitative approaches or methods in a single study” (p.4), some definitions view MMR as simply the collection and analysis of quantitative and qualitative data, whilst others emphasise the importance of complete integration of the two approaches (Doyle et al., 2009).

MMR serves several purposes, including providing a comprehensive understanding, validation and triangulation, practical applications, and addressing complex research questions (see Table 4 for summary; Greene et al., 1989). Several researchers have since set out to further explore the purposes and benefits of MMR, however, many of those are similar to those identified by Greene and colleagues (e.g., Bryman, 2006; Teddlie & Tashakkori, 2009; Creswell & Crewswell, 2017), outlined in Table 4.

Table 4. Purposes for Conduction MMR (Greene et al., 1989).

Purpose	Description	Rationale
Triangulation	Convergence and corroboration of results from different methods.	Increases the validity of constructs by allowing for biases present in one method.
Complementarity	Elaborates on, enhances, illustrates or clarifies results of one method with results from the other method.	Increases the meaningfulness and validity of constructs by capitalising on method strengths and minimising method weaknesses.
Development	Utilised the results of one method to help or inform the other method.	Increases the validity of constructs by capitalising on method strengths.
Initiation	Uses contradiction in findings to inform or reform questions.	Increases the breadth and depth of results by analysing them from different perspectives.
Expansion	Extends the breadth and range of research by using different methods.	Increases the scope of research by selecting the methods most appropriate for multiple inquiries.

However, MMR has also been met with much criticism, with many arguments around the incompatibility thesis, stating quantitative and qualitative research cannot be mixed in a single study (Hathcoat & Meixner, 2017; Pasipamire & Masuku, 2022). Practical issues have also been raised regarding the extra demand placed on time and resources, and the expectation for the researcher to have a good knowledge of both quantitative and qualitative methods, and how to mix them appropriately (ibid). Nevertheless, MMR has been consistently defended and highlighted to be an important methodological approach within the field of psychology. The next section will further explore the utility and importance of MMR within suicide prevention, specifically.

2.4. Mixed Methods for Suicide Research

Primarily, suicide-based research tends to adopt a quantitative methodology (Kral et al., 2012). Dependence on quantitative research, however, limits an understanding of the complexity of suicide and has arguably contributed to several gaps in the literature. For example, poor reliability of results due to small sample sizes in research studies such as randomised controlled trials (RCT), and subsequent uncertainty regarding generalisability, efficacy, and scalability of suicide prevention interventions due to insufficiently powered studies (O'Connor & Portzy, 2018).

Adopting mixed method approaches can provide a more substantive understanding of suicide risk factors, help-seeking behaviour, prevention, and intervention. Employing a mixed methods approach could address the existing gaps and limitations of suicide research and further advance the field, both theoretically and methodologically (Kral et al., 2012). This will enable researchers to utilise methods that facilitate a comprehensive investigation of the complexities of suicidal crisis: quantitative examination of data to promote generalisability of research findings and qualitative methods to provide valuable subjective insights into an individual's culture, emotions, and experiences (Kral et al., 2012).

In the current thesis, pragmatic mixed methods were chosen as the framework to address the identified gaps in the literature. The rationale for using MMR aligns with the assertion that this approach allows for flexibility in investigating a range of perspectives (Regnault et al., 2018). Specifically, in the context of suicide-related research, using qualitative and quantitative methods in combination delivers more in-depth insights from both a subjective and objective perspective (Kral et al., 2012). Subsequently, the use of MMR accounts for the complexity of suicidal crisis, allowing exploration into a range of staff perspectives.

Reflective Note:

My previous research and work experience have been solely either quantitative or qualitative, thus, I welcomed the opportunity to use MMR in this PhD. This was a new learning opportunity for me, and I believe my research skills have been developed by learning how quantitative and qualitative methodologies can complement one another and enhance understanding.

From the start of the PhD, I was keen to develop the existing limited evidence base regarding suicidal crisis. I felt the incorporation of the qualitative interviews added an extra element to the quantitative data, by providing context and understanding as to ***why*** *there are inaccurate coding practices. Engaging with staff about their decision-making processes for this patient group was an eye-opening experience. Their narrative revealed the multiple demands and pressures staff face when supporting both physical and mental health presentations. I found myself empathising with the staff and felt privileged that they trusted me enough to not only share their experiences with me, but for me to then present their views in my research.*

2.5. *Public and Patient Involvement*

Patient and public involvement (PPI), is defined as actively working in partnership with patients and members of the public to plan, manage, design, and carry out research and is becoming more widespread in mental health research. In the UK, good quality PPI has been described as part of the National Standards for Public Involvement in Research (National Institute for Health Research [NIHR], 2019). The NIHR programmes require active involvement of patients and public across all stages of the research; for example, development of research topics, assisting in the design of the study, and carrying out the research (Stocks et al., 2015). Effective PPI is of clear benefit to research (Ennis & Wykes, 2013), PPI members (Awenat et al., 2018) and researcher(s) (Stanley et al., 2017). PPI was involved throughout the whole course of the PhD, as discussed below.

2.5.1.1. Importance of PPI in suicide research

There are strong moral and ethical arguments for good quality PPI in research, yet few studies have documented and evaluated PPI in self-harm and suicide research. Of the limited research available, previous studies have examined the impact of PPI on the development of clinical practice guidelines designed to help practitioners with their decision-making. Involving patients and the public when developing and implementing clinical practice guidelines was shown to be vital to address the gaps between research and patient preferences (Boivin et al., 2018). Similar findings were mirrored in Awenat and colleagues' (2018) qualitative investigation into the experiences of ex-prisoners who were members of a PPI research group examining suicide prevention in prisons. Findings reported that developing positive clear relationships between researchers and PPI members was vital to continued engagement in the research project. Furthermore, MacLean et al., (2018) provided recent commentary on PPI in their research investigating therapy for men who attended EDs following self-harm. The authors noted the importance of flexible processes and supporting PPI members mental well-being. For example, enabling them to take breaks and return to the group as and when appropriate.

2.5.1.2. Challenges of PPI

One issue in utilising PPI in the field of suicide and self-harm research is 'safety', given that PPI members regularly draw upon their own experiences when contributing to research projects (Littlewood et al., 2021). In the specific context of suicide and self-harm research, it is possible that reflecting on lived experiences may cause the individual distress. However, findings from a meta-analysis of 18 studies suggest that participation in suicide-related research is generally not associated with increased levels of distress or suicidal thoughts (Blades et al., 2018). Instead, participation is commonly associated with more positive outcomes, with recent follow-up data indicating that, for some people, these positive outcomes are sustained into the long-term (Littlewood et al., 2021). However, there are differences between involvement in research as a participant and involvement as a PPI member. For example, research procedures are subjected to ethical review which includes the assessment of the likelihood of risk to research participants. In contrast, PPI processes are not routinely subjected to the same formal review process (Littlewood et al., 2021). That said, although there are challenges in involving people with lived experience in suicide and self-harm research, it could be considered unethical to exclude PPI and also lead to poorly designed research studies with inappropriate methods, materials, and recruitment strategies (Coulter & Ellins, 2006).

2.5.1.3. Formulation and Governance

A PPI group was formed for the current thesis, comprising individuals who have attended EDs across both Cheshire & Wirral Partnership NHS Foundation Trust and Mersey Care NHS Foundation Trust in suicidal crisis, following self-harm and/or a suicide attempt.

Recruitment for this group was conducted through the circulation of an advert (see Appendix 1) around each Trust by the designated service user lead. The advert highlighted the study background and a role description. Six females and two males were involved in the public advisory group from CWP (N=6) and Mersey Care NHS Foundation Trust (N=2).

The Terms of Reference were created and agreed upon by all members (Appendix 2). It was agreed that meetings would be held on a tri-annual basis. Doodle polls were used to arrange meeting dates and times that catered for the differing job roles and responsibilities of members. The agenda was circulated to all members at least three days before the meeting. All meetings were held online via Microsoft Teams. This was initially due to the COVID-19 pandemic restrictions, however, when restrictions eased, the convenience for online meetings remained as PPI members were located across both Cheshire and Merseyside.

2.5.1.4. Involvement of PPI in the present thesis

A high importance was placed upon PPI in the current study as service users in particular bring personal knowledge of what it is like to not only experience suicidal thoughts and/or behaviours but to have utilised healthcare services, specifically EDs, when in crisis. The intention of setting up the group was to improve the quality of both the research process and the data collected through the elicitation of a broad spectrum of experiences and views and consultation about the appropriateness and effectiveness of certain methodologies. Feedback provided by the PPI group has been beneficial for the development of this study in a number of ways:

- Ethics application – Integrated Research Application System (IRAS) and Confidentiality Advisory Group (CAG) approval. Discussion around the appropriateness of accessing patient medical data.
- Understanding patient experiences of attending EDs in crisis. This included the ED environment, perceptions of staff attitudes and clinical pathways/referral processes.
- Development of the qualitative interview schedule for ED staff.
- Discussion of findings and their meaning/relevance to clinical practice.

2.6. Emergency Departments as the Research Context

Conducting research on suicide-related presentations to EDs can have substantial benefits for understanding and preventing this significant public health concern. However, researchers must navigate often complex contextual factors, methodological challenges, and ethical concerns.

2.6.1. Steering Group

Co-production is a relatively recent concept, most commonly associated with health and social care practice rather than research (Farr, 2018). Co-production relates to researchers, practitioners/professionals, and service users working together towards a shared goal (Faulkner et al., 2021). Co-production in mental health research is a fairly new approach (Lambert & Carr, 2018) and few studies report on and highlight the importance of a collaborative approach to research, particularly in relation to suicidology. The majority of available research has examined co-production in terms of developing a person-centred approach, for example to therapy or when developing safety plans (Cole-King & Platt, 2017; Rose & Kalathil, 2019). Hanlon et al. (2022), however, reported on how co-production was vital to the development of James' Place Service and the associated model for men experiencing suicidal crisis. The authors noted multiple stakeholders from the local community (i.e., those bereaved by suicide, lived experience, health professionals, and commissioners) were involved in the co-production of James' Place. Responsibilities included reviewing materials, for example, interview schedules and service feedback forms. The importance of adopting a co-productive approach was also noted in creating an environment conducive to engendering talk among men experiencing suicidal crisis and one which was attuned to their needs.

Co-production was adopted in this research to work collaboratively with service users, practitioners, and academic allies to develop an accurate and effective study to answer all research questions and promote meaningful change. To achieve this, a steering group, made up of experts and professionals working in the field or an ED setting, was developed to oversee the research project. The steering group themselves were not involved in decision-making for the project directly but did provide advice and direction to the researchers to best address the research aims. The steering group for this project comprised of relevant clinical professionals working in an ED setting or Crisis Care, i.e., Crisis Line and Public Health. Job roles of members included Advanced Nurse Practitioner, Business Intelligence Manager, Consultants in Emergency Medicine, Clinical Lead for Mental Health Crisis, Crisis Line Manager, Head of Operations, and Liaison Manager. The National Institute for Health Research (NIHR, 2014) states that it is good practice to include at least two members of the public on the research steering group; thus, two members of the PPI group were invited to each meeting. Meetings occurred tri-annually at key stages during the course of the project, for example when applying for ethical approval, data collection at ED sites, and qualitative interviews.

The steering group for the current project has assisted in several ways:

- Ethics application – IRAS and CAG approval. This was key to understanding what challenges we would face when collecting data from EDs and what methods of data collection would be most appropriate and feasible to gather the data of interest.
- Providing a better and deeper knowledge of ED clinical pathways and ED coding for suicidal crisis.
- Facilitated data collection from the proposed EDs. Contact with Business Intelligence departments.
- Development of qualitative interview schedule.
- Recruitment of ED staff for qualitative interview study.
- Interpretation of findings to ensure research findings and recommendations are appropriate and translatable to clinical practice.

Reflective Note:

Throughout the course of the PhD, working collaboratively with the PPI and steering group has proved invaluable for a multitude of reasons. It was important for me as a researcher to be able to understand the individual experiences and issues faced by people presenting to EDs in suicidal crisis, to better understand the core challenges and potential ways my research could inform practice for the better. On a personal note, a close friend had a suicide attempt during the first year of my PhD research. From this, I was aware of how difficult it is to speak about mental health, suicidal thoughts in particular, with close friends and family, let alone external researchers and strangers. I felt privileged that members of the PPI group felt they could share and trust me with their experiences. Creating this safe space for members to discuss their experiences was not only important for the development of study materials (e.g., qualitative interview schedule), but also to better understand and hopefully implement change to current practices within ED to improve patient experiences with services.

There were some difficulties, however, consulting with both PPI and ED staff. Each member of the group had a variety of commitments, and it was rare that all members could attend each meeting. To overcome this, a Doodle poll with set dates and times was sent around to members well in advance of the potential meeting date. Members could then vote from a number of different options and the date and time which suited the majority of members was chosen. For those who could not attend, I ensured all relevant information was circulated following the meeting and arranged to check in with certain members if necessary, to keep them up to date on the progress of the study.

Reflective Note Continued:

My personal experience of working collaboratively with members of the PPI group and ED staff was overwhelmingly positive and crucial to the success of the research. I believe that the research would not have been as impactful without the input of the PPI and steering group as this allowed the findings to have real-world implications and ensured the study met the needs of those working in ED settings and utilising the service in suicidal crisis.

2.6.2. Impact of COVID

The COVID-19 pandemic inevitably impacted the methodology of the current PhD research, particularly in relation to the data collection procedures. In March 2020, a national lockdown was declared leading to the closure of all but essential services, including healthcare, education, retail, and hospitality. Liverpool John Moores University (LJMU) remained closed and all teaching was conducted online due to the high rates of the COVID-19 virus in the Liverpool city region. The healthcare sector was also significantly impacted by the restrictions, both directly and indirectly.

During the initial stages of the PhD, I had planned to personally visit each hospital to access patient hospital data on-site. By doing this, a wider range of data was available to access and collect. In this sense, I would have had access to both the local hospital Trust's system and the mental health Trust system, to essentially 'follow' each person's journey through and after the ED. In order to facilitate this, ethical approval was sought from the Confidentiality Advisory Group (CAG) to access identifiable patient data. This research fell under Precedent Set Category 3, as the researcher would be accessing identifiable patient data on-site without consent. The accessing of identifiable patient data was deemed acceptable for a number of reasons:

(1) Individual ED departments and mental health Trusts collate data separately.
(2) It was not feasible for the patient's direct care team to extract this data due to resource limitations.
(3) It was not feasible for the researcher's organisation to seek individual consent, given the need to obtain a large sample to demonstrate the number of presentations of suicidal crisis to ED departments at a population level.

However, with the increasing pressure and restrictions the COVID-19 pandemic brought to healthcare services, EDs in particular, understandably hospital Trusts limited access to each site for research purposes. This meant that the initial plan, utilising CAG approval, had to be revised. Consequently, working collaboratively with each ED site, I was able to develop links with the Business Intelligence departments for each hospital. This allowed me to access anonymised data for all suicidal crisis, self-harm, and suicide attempt attendances over the time period of interest. Although this change to the data collection procedure meant that more data could be accessed overall, there were restrictions to the data that each hospital Trust was able to provide to the research team. Further information on the data collected and accessed is provided in Chapter 7.

2.7. Thesis Approach

2.7.1. Electronic Health Records as a Quantitative Method

Every patient who presents at the ED is recorded in a database. Electronic health records (EHRs) represent a pivotal shift in healthcare documentation by providing a system to store and manage patient health information. Certain data, for example, demographics, admission information and diagnoses, are routinely collected within these records, in which this data can be extracted, collated, and analysed. EHRs have consistently been used in research, across multiple domains, and present a number of advantages. Firstly, EHRs allow for population-based work to be conducted with significant power (Randall et al., 2017). Data is accessible and often in a standardised electronic format, collating patient data from various sources and providing a holistic understanding of a patient’s presentation. EHRs also provide real-time updates on patient information, allowing for dynamic and up-to-date research, which is particularly valuable when monitoring the effectiveness of interventions (Wiebe et al., 2019).

Administrative patient data, however, are not primarily intended for research use (Lix et al., 2012; Roos et al., 2005). Previous research has indicated methodological limitations in the use of medical records, including variations in the routinely collected data and the accuracy or amount of detail provided (Weiskopf et al., 2013; Agniel et al., 2018). Ensuring the accuracy and standardisation of data remains a challenge given that data entry practices, coding, and terminology can introduce inconsistencies and affect the accuracy and reliability of research findings (Häyrinen et al., 2008; Feder, 2018).

Despite this, it has been argued that the use of EHRs is important to improve patient care, allow for better planning of healthcare services, and improve communication between healthcare professionals (NHS Digital, 2023). Indeed, a key aim of the thesis is to identify ways to improve ED data collection so it can be used for research and facilitate better patient care; thus, EHRs were used as the primary form of quantitative data. This was deemed an appropriate method due to its accessibility, taking into account the COVID-19 restrictions relating to attending and conducting research within EDs at the time. These data also made it possible to address the key aims of the thesis insofar as coding accuracy, staff decision-making, and data collection procedures could all be examined within and between Trusts.

2.7.2. Interviews as a Qualitative Method

Semi-structured interviews were used in this thesis to explore staff perspectives of ED pathways for people presenting in suicidal crisis. Interviews are probably the most widely used method of data collection in qualitative research, which can be structured, semi-structured or unstructured (Minhat, 2015).

Broadly, there are four types of approaches to choose from in qualitative research: interviews, observations, documentation, and artefacts (Creswell & Creswell, 2017). The use of interviews has a number of advantages over other methods. First, in comparison to observation methods, they can generate focused, detailed data on a specific topic of interest relatively quickly (Schultze & Avital, 2011). In the present thesis, observational methods could not be used however due to the aims of exploring coding practices across several EDs, as well as the COVID-19 restrictions impacting on conducting research within EDs. Secondly, the interactive quality of interviews allows for flexibility to adapt approaches and questions depending on the interviewee and situation. Thus, unlike methods such as documentation and unstructured interviews alone, the researcher was able to query responses and probe for further detail.

Structured interviews can be regarded as ‘verbal questionnaires’ and are least common in qualitative research, given that questions are predetermined and are read to the interviewee in a fixed order. Conversely, unstructured interviews are much more open-ended, covering one or two pre-identified topics in great detail, with questions arising in response to what the interviewee says. Semi-structured interviews lie somewhere in between, based on a loose set of pre-determined open-ended questions, with sufficient flexibility to allow the topic of conversation to be guided by the interviewee in pursuit of more detail (Blandford, 2013).

The semi-structured format of the interviews adopted for this research allowed for the flexibility to adapt the interview schedule to take into account the different job requirements and responsibilities when working with people attending EDs in suicidal crisis, something that would not be possible if a structured format had been adopted. Unstructured interviews were also not thought to be a practical option for this thesis. The main reason behind this was to ensure the interview content was appropriate and suitably sensitive for participants, which may be difficult to demonstrate without pre-prepared questions and avenues to explore. Furthermore, focus groups were discussed as a potential method, however, with the current pressures placed upon ED services, it was thought that staff recruitment would be too difficult. By utilising interviews as the chosen method, the researcher was able to be accommodating to the availability of participants, which made it possible to explore a wide range of staff views. Furthermore, conducting one-to-one interviews enabled the researcher to elicit views and perspectives individually and privately; this was particularly important for the topic of attitudes. Anonymity was guaranteed with one-to-one interviews, which was important given the topic of the interviews and the potentially sensitive nature of discussions around patients attending EDs in suicidal crisis and decision-making.

Interviews are widely considered as the ‘gold standard’ in qualitative research (Oltmann, 2016). Despite this, no method is without its limitations. They are costly and time-consuming, both in terms of organising and the length of the interview itself. They also take a lot of time to transcribe, analyse, and code. Furthermore, the quality of data gathered is largely dependent on the skills and expertise of the interviewer (Guba & Lincoln, 1981). Outside interruptions, competing distractions, and asking awkward or sensitive questions are also common pitfalls when conducting interviews (Britten, 1995; Bolderston, 2012). However, taking note of these limitations, semi-structured interviews were considered the most appropriate method in comparison to structured, unstructured methods or focus groups.

Reflective Note:

Initially, recruitment for the interview study was extremely challenging, particularly for administrative and medical ED staff. Having acknowledged and identified the under-representation of these staffing roles in research, I was keen to overcome this hurdle and ensure a range of staff views were captured in my research. At the start of this work, COVID-19 impacted on the original methodological plan. I started conducting interviews online via Microsoft Teams, in which it was possible to recruit higher level staff, such as Consultants in Emergency Medicine or Consultant Liaison Psychiatrists, due to their working patterns. Having hit a plateau with recruitment, I reached out to my Steering Group, in which specific members facilitated on-site visits to conduct interviews. Before attending the EDs, I did not pre-book any interviews. Instead, I embedded myself in the ED with various staff which allowed me to build rapport.

Reflective Note Continued:

I felt that it was important to recognise my position as a researcher when conducting interviews with ED staff, since I was external to both the general hospital and mental health Trusts interviewees worked for. Prior to on-site recruitment, I felt staff were often reluctant to speak to me and share their experiences. I believed this to be due to the inability to build rapport over an email. Being in-person with the staff allowed for me to speak and engage with staff outside of the PhD research, which helped staff trust me and want to speak about their experiences. I was also conscious of the wording used within the interview schedules to ensure staff groups did not feel judged or that they could speak honestly and openly. For example, to elicit attitudes towards suicidal crisis, questions centred around the wording of 'views' and 'thoughts'

The physical environment of the ED setting was also something to note. Although conducting in-person interviews on-site allowed for the recruitment of staff who have previously been omitted from research, time and space constraints posed an issue. Often staff had very limited time to take part, which meant I had to be flexible in my interviewing style to ensure staff views were accurately represented whilst still ensuring all core topics were covered. Lack of space to conduct interviews meant that some interviews were conducted in staff rooms, surrounded by other staff. This posed the question as to whether some staff felt they could speak freely and openly about certain topics.

Furthermore, on some occasions, interviews took place within store cupboards as this was the only quiet and private space available within the ED. Although challenging at times, I did find this part of the research the most enjoyable as I got an insight into the hospital environment and how this impacts staff, seeing in real-life some of the concerns and issues that have arisen from Chapter 4, for example.

2.7.3. Triangulation

Triangulation in research refers to integrating data from different sources to examine and conform phenomena (Flick, 2017). Synthesis of data can occur across two or more researchers, data sources, and methods. For example, data collected using the same methodology (e.g., qualitative data) or from different methodological approaches (qualitative and quantitative data) (Graham, 2005). The purpose of triangulation is to confirm the validity and reliability of data inferences (Heale & Forbes, 2013).

The present thesis adopted an extended conceptualisation of triangulation (Flick, 2017). Different types of triangulation were used: data triangulation, methodological and investigator. Firstly, data were collected from various sources, including crisis line and ED databases, community surveys, and qualitative interviews. Methodological triangulation was also utilised in terms of varied methods of data collection and analysis (e.g., descriptive analysis, inferential statistics, systematic review and reflexive thematic analysis). Investigator triangulation was particularly important for the qualitative analysis. Two researchers (the primary author and PS) reviewed the codes and themes from the qualitative data, whilst the remainder of the supervisory team (JM, RN and EA) acted as external auditors of the codes/themes derived (Rose & Johnson, 2020). The external auditors allowed for increased trustworthiness in the qualitative data since critical distance was maintained allowing views and perceptions to be uninfluenced by the primary researchers' discussions (Rose & Johnson, 2020). Triangulation was also facilitated by the supervisory team having varied expertise in quantitative and qualitative methods.

2.8. Outline of Study Methodologies

The current thesis comprises five studies which sought to address the identified gaps in the literature. Each study is formatted according to the publishing guidelines of the journal that it is either published in or has been submitted to for publication.

2.8.1. Predictors of Self-Harm and Emergency Department Attendance for Self-Harm in Deprived Communities (Chapter 4: Published in International Journal of Injury Control and Safety Promotion).

Using a cross-section survey design, Chapter 4 aimed to explore the predictors of self-harm and ED attendance for self-harm in deprived communities. Data from the National Institute of Health Research Applied Research Collaboration North West Coast (NIHR ARC NWC) Household Health Survey (HHS) Wave 2 were collected using stratified random sampling. Based on past research and theory, a subset of the overall HHS measures was used in this analysis: demographic, socioeconomic, physical health, mental health and lifestyle factors were examined in relation to self-harm and self-harm related ED attendance.

Data were analysed using Stata V.12. logit function. Two logistic regression analyses were coded with self-harm and ED attendance for self-harm, regressed on demographic, socioeconomic, lifestyle, physical and mental health variables. The published version of this study is available at https://www.tandfonline.com/doi/full/10.1080/17457300.2023.2204474.

2.8.2. Factors Influencing Emergency Department Staff Decision-Making for People Attending in Suicidal Crisis: A Systematic Review (Chapter 5: Published in Archives of Suicide Research).

Chapter 5 was a systematic review of the literature which aimed to explore the factors that influence ED staff decision-making for people attending in suicidal crisis. A proposal was developed and registered with PROSPERO (CRD42022303429), available from https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=303429.

Search terms were developed by scoping the existing literature and were used to search five electronic databases (MedLine, CINAHL, PsycINFO, Web of Science and Cochrane Library). A data extraction sheet was created and used to collate information pertaining to the aims of the review, including study characteristics (study aims, design, location, sample size) and decision-making factors (e.g., patient-related, contextual, or staff-related). A narrative synthesis approach was used to summarise and describe the findings. This approach was chosen due to heterogeneity in the types of studies and findings reported. Several implications in regard to the hospital context, staff burnout, and training needs were considered. The published version of this study is available at: https://www.tandfonline.com/doi/full/10.1080/13811118.2023.2173113.

2.8.3. Staff Perspectives of Emergency Department Pathways for People Attending in Suicidal Crisis: A Qualitative Study (Chapter 6: Published in Journal of Psychiatric and Mental Health Nursing).

Chapter 6 is a qualitative exploration into staff perspectives of ED pathways for people attending in suicidal crisis. Previous research tends to focus on one staffing role, for example, triage nurses, who represent only a small fraction of the patient pathway. To address this, the current study recruited 23 staff currently working in an ED setting in either an administrative (i.e., ED receptionist), medical (triage nurse), or mental health (liaison psychiatrist) role. Semi-structured interviews (N=23) were conducted across five ED sites in Merseyside and Cheshire. A semi-structured interview schedule was created which focused on staff decision-making, views and attitudes towards suicidal crisis and training/environmental needs. All interviews were transcribed verbatim and analysed using thematic analysis (Braun & Clarke, 2006; 2018).

Thematic analysis is a qualitative method described as involving active and interactive engagement with data in the development of themes, which allows patterns to be identified, analysed, and reported (Braun & Clarke, 2019). This method of analysis was chosen to fulfil the study's aims of exploring ED staff's perspectives and experiences of people attending in suicidal crisis. Other qualitative methods of analysis were deemed not suitable; for example, grounded theory was not appropriate given the purpose of the study was not to develop a theory of a phenomenon, and interpretative phenological analysis was not suitable given the study was not concerned with how individuals interpret and make sense of phenomenon. Thematic analysis is flexible, yet robust, as it is not limited to a specific theoretical stance and, thus, is adaptable across a range of research questions (Braun & Clarke, 2006). As the research aim was broadly exploratory, thematic analysis allowed for inductive (data-driven) and deductive (theory-driven) coding and theme development by the researcher actively engaging with the data in a reflexive process of refining and defining codes and themes (Braun & Clark, 2019; Clarke & Braun, 2018). Finally, thematic analysis allows for wider dissemination to a broad audience beyond academia due to its accessible nature (Braun & Clark, 2006), which was a key aim of the thesis.

The researcher independently developed codes and themes. The data, codes, and themes developed were then reviewed by the supervisory team to ensure transparency and agreement. The published version of this paper is available at https://onlinelibrary.wiley.com/doi/full/10.1111/jpm.12991.

2.8.4. "No Abnormality Detected": A Mixed-Methods Examination of Emergency Department Coding Practices for People in Suicidal Crisis (Chapter 7: Submitted to Archives of Suicide Research).

Chapter 7 utilised a mixed-methods design to explore ED coding practices for people in suicidal crisis across six EDs in Merseyside and Cheshire. Quantitative data were collated from 2019 to 2021 and attendances were included if they had received a presenting complaint, chief complaint, or primary diagnosis code related to suicidal crisis, suicidal ideation, self-harm, or suicide attempt. Relevant data relating to coding practices were also extracted from the semi-structured interviews (described in Chapter 6) (N=23). A two-phased mixed-methods explanatory sequential design was adopted (Creswell & Plano Clark, 2011) by which quantitative data was collected and analysed, followed by the collection and analysis of qualitative data to build upon the initial findings. This was done to determine *if* and then *why* there are inaccurate and inconsistent coding practices.

Quantitative data were analysed descriptively, using frequencies and percentages, to examine the primary diagnosis code received when the chief complaint was a suicide-related code. Descriptive analyses were conducted for a number of reasons. Firstly, there is an absence of academic literature exploring ED coding practices; thus, descriptive analyses provide important information on the number of attendances and common codes used. Secondly, the data available from the participating EDs varied significantly in terms of what data were routinely collected and how consistently staff recorded data on the EHRs. Data not only varied between sites but also within sites, with a high percentage of data missing at random (18.4% across 6 EDs). Finally, the research questions related to consistency and quality of coding could be addressed with descriptive analysis; hence, there was no need to conduct inferential tests.

Qualitative data were analysed using reflexive thematic analysis (Braun & Clark, 2021). The purpose of the qualitative work was to provide an explanatory role supporting the quantitative findings. A hybrid approach was used in which the initial coding framework was based on the quantitative findings and data coded according to them; a deductive approach was also used to allow for unanticipated codes. Relevant qualitative data is thus presented alongside the quantitative data, in line with the explanatory mixed-methods design.

2.8.5. Socioeconomic Predictors of Crisis and Clinical Pathways Among People Contacting a Mental Health Crisis Line (Chapter 8: Published in Health Services Insights).

The final paper of this thesis comprises a quantitative study exploring the socioeconomic predictors of crisis and clinical pathways among people contacting a mental health crisis line (Chapter 8). The dataset captured calls to the Cheshire & Wirral Partnership NHS Foundation Trust crisis line between August 2020 and August 2021 (N=4,979). Descriptive analyses were conducted to produce a clinical and demographic profile of the callers using the crisis line. Chi-squared analyses were conducted to examine the association between (1) self-harm, risk to self, overdose and call handler triage outcomes and (2) socioeconomic factors and the outcomes of self-harm, risk to self, and overdose.

Originally, this study was not planned as part of the current thesis. However, the crisis line service was implemented ahead of schedule in response to the COVID-19 pandemic; thus, no formal analysis had been conducted on the service. Having been awarded a £20,000 grant to conduct this analysis in collaboration with Public Health England, the study was included in the thesis since the service has implications for both deterring ED attendance and referring people in crisis to the ED. Thus, the thesis pivoted its focus on service use in line with the way services pivoted during the pandemic and associated lockdowns. Implications were considered in regard to community services and data collection procedures. The published version of this paper is available at https://journals.sagepub.com/doi/10.1177/11786329231212120.

2.9. Ethical Considerations

The current study was approved by the relevant research ethics committees. NHS Health Research Authority and Research Ethics Committee: Integrated Research Application System (IRAS) and Confidentiality Advisory Group (CAG) (IRAS ID 298407).

In relation to quantitative ED hospital data, precautions were taken to ensure the confidentiality of patient medical records. Data were accessed and extracted by individual hospital Business Intelligence departments and sent over to the researchers in a password-protected, anonymised Excel spreadsheet. All data received were non-identifiable.

Verbal consent was obtained from all interviewees prior to the commencement of the qualitative element of this thesis (see Appendix 3). All ED staff interested in taking part in the semi-structured interviews received a participant information sheet that described the study purpose and aims, rights to withdraw, and limits to confidentiality (Appendix 4). All participants were given the opportunity to ask questions before taking part. Prior to interviews, a standardised blurb was read to each participant (see Appendix 5). This included a brief explanation of the study, rights to withdraw, and information related to the use of interview data (i.e., audio recording and use of quotations in publications).

It is important for researchers to actively take steps to minimise the potential harm to both the participants and to themselves. The nature of this research meant potentially sensitive topics (e.g., management and attitudes towards suicidal thoughts and behaviours) were discussed during interviews. To minimise the risk of distress to participants, questions were worded sensitively and during interviews, I remained vigilant for signs of distress. Where necessary, interviewees were reminded that they may pause or stop the interview at any time. Personal and identifiable information about interviewees or patients discussed during the interview was handled only by members of the direct research team and anonymisation occurred at the earliest opportunity to maintain confidentiality. Interview recordings were stored on LJMU's secure network drive (one drive). Only aggregate and anonymised data (including direct quotations) were published.

It was also important to minimise the potential harm to myself as the researcher. Box 2 summarises the steps that were taken prior to, during and following interviews with ED staff.

Box 2. Procedures to Minimise Risk of Harm to the Researcher.

Prior to Interviews: - Attended training with staff who have experience in qualitative interviewing in suicide research. - Excluded any potential interviewees that were not 100% comfortable to participate in the study.
During the Interviews: - Prepared to terminate the interview if the participant was significantly affected by the topics discussed.
Following the Interviews: - Debrief with Director of Studies (PS). - Attend regular supervision sessions.

Reflective Note:

Conducting a PhD in itself is emotionally demanding and from the outset it was clear that this research and topic area added an extra layer to that. In order to manage this, it was necessary to proactively consider the emotional distress and demand placed upon myself as a researcher and plan strategies to mitigate the negative impacts. I, therefore, created time and space to acknowledge my emotions and proactively build continuous self-care into the research process. One example of this was during the qualitative aspect of the thesis. Many times, whilst interviewing I heard staff speak extremely negatively, using stigmatising language, particularly towards frequent attenders. I found this really hard to listen to, and often felt conflicted in challenging the language used by staff whilst wanting to maintain an open, trusting relationship with interviewees. To mitigate this, I ensured PS or one of my fellow PhD students was available afterwards for a phone call to debrief about my feelings and experience. I also limited myself to three interviews per day (for on-site visits) as I wanted to ensure I could give participants my full concentration and attention.

2.10. Chapter Summary

This chapter has described the conceptual framework, methodological approaches, and rationale for a mixed methods study on ED coding practices and staff decision-making for people attending in suicidal crisis. Conducting research within EDs was discussed, highlighting the importance of PPI and co-production. The impact of COVID-19 on the research, as well as key ethical considerations, were also noted. The five original studies that make up this thesis were described in terms of their rationale, aims, and justification for methodology.

Chapter 3: Improve Coding Practices for Patients in Suicidal Crisis.

Nealy 6,000 people lose their lives to suicide each year in the United Kingdom and it is the leading cause of death in young people (ONS, 2022). Suicidal ideation and self-harm greatly increase the risk of suicide. Each year there are over 200,000 hospital presentations for self-harm, and it is one of the most frequent reasons for hospital admission (Hawton et al., 2007). In the year before suicide, 25% of people have been in contact with mental health services and over 40% have been to the ED (Ahmedani et al., 2014). Health services, therefore, play a crucial role in suicide prevention and data insights are fundamental to safer patient care (Quinlivan et al., 2020). Both NICE self-harm guidelines (2022) and the new suicide prevention strategy for England (Department of Health and Social Care, 2023) highlight the role of data-driven research. However, there are challenges when using routinely collected data for intervening on suicide and self-harm. Chapter 3 will set the scene for the thesis, providing background information on ED coding practices, the challenges associated with recording suicide-related presentations and key priorities for action.

The aim of this chapter was to provide concise background information, prior to the main thesis research, on suicidal crisis ED presentations, and how poor data recording, or lack of, is holding back much needed improvements to the services.

Note: This paper has been published as detailed below. Therefore, this chapter is formatted in line with the formatting requirements of the journal in which it has been published.

McCarthy, M., Saini, P., Nathan, R., & McIntyre, J. (2021). Improve coding practices for patients in suicidal crisis. *BMJ*, *375*. https://doi.org/10.1136/bmj.n2480.

Improve coding practices for patients in suicidal crisis.

Lack of data is holding back much needed improvements to services.

A total of 5691 deaths by suicide were registered in England and Wales in 2019, substantially more than in previous years.[1] Records of deaths by suicide have their problems,[2] but at least a clear system is in place. The recording of suicidal or self-harm ideation, however, is much less clear and robust, despite the fact that suicidal ideation is one of the strongest risk factors for death by suicide.[3] Poor data are hampering efforts to care for those affected.

Suicidal crisis involves overwhelming distress with suicidal thoughts or a suicide attempt. It is characterised by severe emotional pain, for which death seems to be the only option.[4] Risk of self-harm is often heightened during a crisis, and people deemed to be at “high” risk need rapid care to minimise potential harm.[5]

Emergency departments are often the first point of contact for people experiencing suicide-related distress,[6,7] but while data are available on attendances for self-harm, no comparable data exist for suicidal crisis. In England, more than 200 000 presentations with self-harm are recorded in emergency departments annually.[8] Hospital figures underestimate suicide-related admissions, however, because of inconsistencies in coding within and between sites. One study[9] reported that Hospital Episode Statistics underestimated rates of self-harm by 60%. Recent work has also indicated that administrative data from emergency departments misrepresents the true volume of suicidal presentations because of heterogeneity in coding.[10] These findings support the need to develop a more precise system to detect and monitor suicidal crises within emergency departments.

Accurate detection and documentation of suicidal crisis is critical to understanding future risk and to improving services. The current coding system, ICD-10 (International Classification of Diseases, 10th revision), includes diagnostic codes related to suicide attempts, self-harm, and suicidal ideation. However, in practice, the code for suicidal ideation (R45.81) is rarely used.[11] Guidelines state that this code should be used only if the clinician is certain there is no underlying mental disorder. Consequently, attendances for suicidal crisis are often coded as depression or anxiety disorder.[10] Coding is further complicated by the recording of only one diagnosis. One study found that 90% of attendances had only one recorded diagnosis, so identifying people who attend with mental ill health and an unrelated primary diagnosis code (such as laceration) is not possible.[12]

Administrative challenges in coding self-harm in emergency departments are often obscured by inconsistent coding and delays in entering information onto systems, and over 10% of all incidents are not included in basic emergency records.[13] The Emergency Care Data Set was introduced in 2017 in an attempt to address these problems and includes a larger and more specific list of over 1000 clinical terms to capture patient data (SNOMED CT). Although SNOMED codes have been used in Australian studies to obtain suicide-related data,[7] and some argue they improve the quality of information,[14] their value in recording suicidal ideation remains unknown.

Given limitations in current coding practices, the number of emergency department attendances for suicidal crisis is probably much higher than official NHS statistics suggest. Data should therefore be used with caution until a more standardised approach is implemented.

Priorities for action

Research and development in monitoring systems for suicidal crisis should be a priority for health services, and a national data collection tool is urgently needed to ensure accurate and timely data collection in emergency departments. As a first step, new coding systems could be piloted in a small number of hospitals to ensure their search terms and screening procedures are robust. Improved detection and recording of suicidal crises will support service developments such as the crisis care concordat,[15] which aims to provide better access to mental health services in England. Better data could be used to inform policy and developments in crisis care and to tackle the implementation gap between policy and services.

Finally, pandemic-related factors, such as reduced services and social isolation, were reported more frequently by patients needing emergency care for self-harm during lockdown in England.[16] Evidence suggests self-harm and suicidal thoughts increased during the first month of the pandemic,[17] although the long-term impact of the pandemic on suicide rates is still unknown.[18] The predictive power of suicidal ideation as a risk factor for suicide varies between studies,[19] and our suggestions to standardise recording across health organisations would help clarify and quantify the association.

Major changes to coding practices would be a substantial challenge for emergency departments and researchers. However, prioritising such work could result in considerable benefits for patients, including more efficient targeting of resources and interventions to areas with the highest prevalence of suicide-related behaviours.

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Chapter 4: Predictors of Self-Harm and Emergency Department Attendance for Self-Harm in Deprived Communities.

The way suicidal crisis is managed and coded in ED settings largely depends on the people attending who need care. As such, it is important to understand the characteristics of people who are most likely to attend EDs for suicidal crisis or self-harm. Indeed, knowing the key factors likely to lead to an ED attendance for suicide-related distress can better prepare staff for triage decision-making and improve data capture. For example, knowing that younger people or people with co-occurring conditions are at high risk of attending EDs for suicidal distress, means that coding systems can be designed to capture information that might inform follow-on care more appropriately.

EDs are often the first point of contact for many people experiencing suicidal crisis or following self-harm. Yet, the determinants of self-harm are not well understood due to poor self-harm coding and data capture within EDs (as highlighted above). It is also important to recognise that not everyone engaging in self-harm will seek help in an ED setting; thus, better understanding the predictors of self-harm and related ED attendance is important for ensuring effective targeted interventions at community level. Current theories of suicidal thoughts and behaviours highlight the important role of SES. However, few studies have incorporated individual-level and area-level factors. Accordingly, this study sought to address this gap in the literature by conducting a secondary analysis of cross-sectional data from a large community-based public health survey. Self-harm was the focus of this paper due to the important role of self-harm in suicidal crisis, as a predictor and also a proxy measure. Moreover, the HHS only captured data on ED attendance for self-harm, so suicidal crisis could not be examined specifically. However, this limitation is offset by the strength of capturing ED attendances for a suicide-related construct in a large community sample, which has not been possible in previous research.

The current study aimed to develop and enhance the current evidence base to examine the predictors of self-harm and self-harm related ED attendances. Using responses from the National Institute for Health Research Applied Research Collaboration North West Coast (NIHR ARC NWC) Household Health Survey, the study examined demographic, health and socioeconomic predictors of self-harm and related ED attendance. Due to the wide scope of the survey, the study was able to include all of the key sociodemographic predictors outlined in Chapter 1 (age, gender, ethnicity and inequalities). Further to this, the study was able to assess social and lifestyle variables that have been linked to mental health difficulties (e.g., alcohol consumption and social capital) alongside potential confounders (anxiety, depression, and physical health) (e.g., Wiener et al., 2017; Yue et al., 2023).

The data met all the assumptions of Logistic Regression, including having a binary dependent variable and independence of observations. A test of multicollinearity revealed that VIF statistics ranged from 1.05 to 3.41. As these were well below the threshold of five, the test indicated there were no issues with multicollinearity between predictors.

Note: This paper has been published as detailed below. Therefore, this chapter is formatted in line with the formatting requirements of the journal in which it has been published.

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Abstract

Emergency departments (EDs) are often the first point of contact for individuals following self-harm. The majority of previous research relies on hospital-based data, yet only a minority of individuals who self-harm in the community present to healthcare services. The study design is a cross-sectional survey design. Data from the National Institute for Health Research Applied Research Collaboration North West Coast (NIHR ARC NWC) Household Health Survey, a community-based public health survey in North West England, was collected using stratified random sampling. Three thousand four hundred and twelve people were recruited in 2018 from relatively disadvantaged areas. The sample included 1490 men and 1922 women aged 18 to 100 years (*M* = 49.37, *SD* = 18.91). Logistic regression analysis was employed to examine demographic, health, and socioeconomic predictors of self-harm and ED attendance for self-harm. Age (18-24 years), lower financial status, depression, anxiety and physical and mental health co-morbidity were associated with significantly higher levels of self-harm. People aged 18-24 years, with physical and mental health co-morbidity and lower levels of social support had significantly higher levels of attending EDs for self-harm. Improving people's financial situations, social connectivity, mental and physical health may help to reduce individual risk for self-harm and strain on health services.

Keywords: Self-Harm; Emergency Department; Deprivation; Community.

Introduction

Self-harm is a major public health issue in the UK and is the strongest risk factor for suicide (NCISH, 2017; Mars et al. 2019). Defined as “any intentional act of self-injury or self-poisoning regardless of motivation of suicidal intent”, self-harm can have a substantial negative impact on the individual and wider healthcare services (Sinclair et al. 2011). The prevalence of self-harm has increased from 2.4% in 2000 to 6.4% in 2014 (McManus et al. 2019). Despite this increase in prevalence, self-harm remains largely untreated with nearly half of young people who self-harm (48%) not receiving clinical or non-healthcare support (Ystgaard et al. 2009). Lack of help-seeking does not seem to be related to lack of services or resources; rather, stigma and perceptions of self-harm (e.g., being labelled as an “attention seeker”) reduce help-seeking behaviours (Fortune, Sinclair & Hawton, 2008; Michelmore & Hindley, 2012).

Current theories of suicidal thoughts and behaviour recognise the multifaceted nature of biological, psychological, environmental and cultural factors in suicide (O’Connor, 2011). The Integrated Motivational-Volitional Model of Suicidal Behaviour (IMV) (O’Connor, 2011) was developed to advance the current knowledge and evidence base of why people die by suicide. The model includes three phases: pre-motivational, motivational and volitional phase. In brief, the pre-motivational phase describes background context, including socio-economic status (SES), in which suicidal ideation may develop and self-harm behaviours might occur (Wetherall, Robb & O’Connor, 2019). Socio-economic deprivation is an important factor to examine, yet little research has explored the association between socioeconomic factors and self-harm in deprived communities.

There has been a large volume of research conducted into the link between SES and suicidal behaviour over recent decades. Much of this research has solely focused on suicide attempts and a number of studies have previously examined individual factors, such as employment and education (Kposowa, Ezzat & Breault, 2019), as well as area socioeconomic characteristics related to suicide (Näher, Rummel-Kluge & Hegerl, 2020). Although findings demonstrate higher rates of suicide attempts and deaths by suicide among lower SES groups, results are largely inconsistent. Findings vary substantially across studies depending on the country or region where the study was conducted, and the different measures of SES used (Burrows & Laflamme, 2010).

In the UK, general population surveys and cross-sectional studies examining self-harm have typically been underpowered to detect differences between ethnic groups (McManus et al.

2014; Rees et al. 2016). Instead, research comparing rates of self-harm commonly rely on hospital-based datasets derived from service user contact. For example, Burrows and Laflamme's (2010) review found that greater socioeconomic disadvantage was associated with higher rates of suicidal behaviour and suicide attempts. There is, however, a paucity of research in community populations. One study by Mulholland et al. (2021) found that factors such as age, sexuality, belonging, and health status were significant predictors of suicidal ideation in a community sample, concluding that there is a need for community level interventions to better support individuals experiencing suicidal ideation. This study, however, did not examine self-harm behaviours or ED attendance for self-harm.

Increasingly, there is the suggestion that only a small percentage of those who have self-harmed in the community present to healthcare services for treatment or support (Carr et al. 2016; Geulayov et al. 2018). In England, more than 200,000 ED presentations with self-harm are recorded annually (Hawton et al. 2007). This figure, however, underestimates the rates of self-harm due to inaccurate and inconsistent ED coding (McCarthy et al. 2021). Some studies have examined the link between self-harm treated in EDs and both individual and area-level SES factors, with the majority finding an association between deprivation and self-harm (Griffin et al. 2019). Tsiachristas et al. (2020) found higher rates of self-harm hospital presentations in deprived areas compared with less deprived areas.

National strategy and clinical guidelines emphasise self-harm as a priority area in public health policy (Anderson & Jenkins, 2006; NICE, 2012; WHO, 2012). Moreover, The Suicide Prevention Strategy for England recommends that EDs be prioritised as a setting for research and intervention efforts. One goal of this national agenda is to improve early identification of patients at elevated risk for self-harm (Department of Health, 2021).

Overall, the determinants of self-harm are not well understood due to poor self-harm coding and data capture of social determinants in ED departments (McCarthy et al. 2021). Further to this, previous research has often relied on data from health services; thus, it is important to triangulate these findings with data from other sources, such as community surveys. The current study aimed to develop and enhance the current evidence base to examine the predictors of self-harm and self-harm-related ED attendance. Using responses from the ARC NWC Household Health Survey (HHS), the study examined demographic, health and socioeconomic predictors of self-harm and ED attendance for self-harm.

Method

Study Design and Participants

In 2018, Wave 2 of the HHS, a cross-sectional community based public health survey, was conducted as part of the National Institute for Health Research and Applied Research Collaboration – North West Coast (NIHR ARC-NWC). A total of 20 deprived neighbourhoods were sampled using random area probability sampling in the North West of England, with researcher’s door-knocking randomly selected residences and using the “next birthday” rule, meaning if more than one resident is home the interviewer will recruit the person whose birthday is coming up next as the participant. Deprived neighbourhoods were identified by local authority partners. To be considered a deprived area, the neighbourhood had to meet five criteria: 1) population between 5,000 and 10,000 residents, 2) population likely to be impacted by resilience interventions and 3) have local infrastructure to implement resilience initiatives. The survey was designed, in part, to test various public health interventions. Therefore, neighbourhoods needed to have adequate infrastructure for those interventions to be implemented. For example, if a neighbourhood was implementing a resilience intervention such as financial advice services, it would need to have appropriate buildings, rooms and public transport routes to accommodate the service. 4) Have an Index of Multiple Deprivation (IMD) score in the bottom 10% nationally. IMD is a widely used measure in the UK to classify the relative deprivation of small areas. IMD scores of all neighbourhoods in the UK are published by the government (Ministry of Housing, Communities & Local Government, 2019); thus, neighbourhoods needed to be in the bottom 10% based on these IMD scores. Finally, neighbourhoods needed to have a coherent or shared sense of identity among residents. This is a subjective criterion based on discussions with local residents and local authority partners. It means neighbourhoods should map onto areas where people are likely to have a coherent geographical social identity that could be easily identified and named by residents, e.g., Blackpool. A detailed description of the design, sampling method and measures is available elsewhere (Giebel et al. 2020). In total, 3412 people were recruited, comprising 1490 men and 1922 women aged 18 to 100 years (*M* = 49.37, *SD* = 18.91). Wave 1 data was not used in the present study as it did not include measures of self-harm or ED attendance for self-harm.

Measures

Based on past research findings and theory, a subset of the overall HHS questions was included in the analysis for the current study. Demographic, socioeconomic, physical health, mental health and lifestyle factors were explored in relation to self-harm and self-harm related ED attendance. Information about self-harm was captured by the question ‘have you deliberately hurt yourself in the past 12 months?’. ‘Yes’ was coded as ‘1’, ‘no’ as ‘2’ and ‘prefer not to say’ as ‘3’. If this question was coded as ‘1’, respondents were then asked if they had attended any services due to deliberate self-harm. Response options included EDs, general practitioners and mental health workers. Information about self-harm related ED attendance was derived from this question.

Socio-demographic variables were coded in accordance with UK Office for National Statistics national census categories (ONS, 2016). Variables included in the current analysis are as follows: financial situation – Wealth and Assets Survey (ONS, 2019); physical health – EQ-5D (Gusi, Olivares & Rajendram, 2010); depression – PHQ-9 (Kroenke & Spitzer, 2002); anxiety – GAD-7 (Spitzer, Kroenke & Williams, 2006); alcohol consumption and smoking – Merseyside Lifestyle Survey (Knowsley Council, 2013). Mental and physical health comorbidity was assessed by asking participants to indicate whether they had any physical or mental health conditions (Yes/No), and then if they responded yes, to indicate which condition or conditions they had from a list of physical and mental health conditions.

Data Analysis Plan and Preliminary Results

Data were analysed using Stata V.12 using the *logit* function. The dependent variable of self-harm was recoded into ‘0’ self-harm absent and ‘1’ self-harm present. Preliminary analyses revealed 94 individuals had self-harmed in the previous 12 months. Of those 94 people, 40 had attended ED for self-harm in the previous 12 months. A total of 830 people had attended ED for any reason in the past 12 months.

Two logistic regression analyses were conducted with self-harm and ED attendance for self-harm, regressed on demographic, socioeconomic, lifestyle, physical and mental health variables. Analyses were weight-adjusted to represent the demographic profile of each sampled neighbourhoods. The models provided estimates of the log-odds increase in the criterion for each 1 unit increase in the predictor, along with associated standard errors while holding all other variables in the model constant. Model 1 explored the predictors of self-harm and model 2 tested predictors of ED attendance for self-harm. Analysis showed that no variable was missing more than 3% of values, indicating the levels of missing data to be low and thus no imputation procedures were required.

Results

Model 1: Logistic Regression Predictors of Self-Harm

A logistic regression was conducted predicting self-harm (Table 1). The overall model was significant, Wald $\chi^2 = 214.84$, N = 3145, $p < 0.001$. Significant individual predictors are highlighted with alpha set to 0.05. Age was a significant predictor of deliberate self-harm. The odds of individuals aged 18 to 24 years self-harming were twice as higher than the base category of 65+ years. Financial status was a significant predictor of self-harm with individuals being in the same financial position at 1.5 times lower odds and those in a better financial position than last year being at 1.1 times lower odds of self-harm, relative to being in a worse financial position. Both depression and anxiety were associated with higher odds of self-harm, with depression increasing the odds of self-harm by .8 and anxiety by .6. People with physical and mental health co-existence were also 2.3 times more likely to self-harm.

Table 1. Predictors of Self-Harm

Predictor	**Coefficient**	**Robust Standard Error**	**P Value**	**95% CI**
Age (≥65 years)				
18-24 years	2.00	0.72	0.006**	0.58 – 3.41
24-44	1.07	0.69	0.123	-0.29 – 2.43
45-65	0.58	0.68	0.391	-0.75 – 1.92
Gender	-0.40	0.28	0.154	-0.94 – 0.15
Ethnicity	-1.79	1.05	0.086	-3.84 - 0.25
LGBTQ+	0.38	0.73	0.605	-1.05 – 1.81
Single	-0.44	0.46	0.335	-1.34 – 0.46
Neighbourhood	0.15	0.29	0.607	-0.42 – 0.72
Financial Status (Worse Off)				
2 (Same)	-1.54	0.42	0.000***	-2.36 - -0.72
3 (Better Off)	-1.14	0.45	0.011*	-2.02 - -0.26
Education (No Qual.)				
2 (Vocational Qual.)	-0.17	0.32	0.609	-0.80 – 0.47
3 (Degree or Higher)	0.27	0.60	0.656	-0.91 – 1.44
Non-Employment	0.58	0.37	0.121	-0.15 – 1.31
Problems with Mobility	-0.07	0.55	0.900	-1.15 – 1.01
Problems with Self-Care	-0.35	0.45	0.434	-1.24 – 0.53
Problems with Usual Activities	-0.50	0.45	0.270	-1.39 – 0.39
Problems with Pain	-0.04	0.45	0.924	-0.92 – 0.83
Depression (PHQ-9)	0.75	0.33	0.023*	0.11 – 1.40
Anxiety (GAD-7)	0.62	0.28	0.024*	0.08 – 1.16
Physical and Mental Health Co-existence	2.25	0.37	0.000***	1.52 – 2.97
Smoking (Current)	0.42	0.31	0.185	-0.20 – 1.03
Alcohol (1-14 units)				
0 units	0.05	0.29	0.863	-0.52 – 0.62
14-28 units	-1.26	0.87	0.149	-2.98 – 0.45
> 28 units	-0.82	0.73	0.265	-2.26 – 0.62
Meet Up Once a Week	-0.46	0.35	0.188	-1.14 – 0.22
There for Me	-0.61	0.60	0.314	-1.79 – 0.57
Identity	-0.13	0.16	0.408	-0.44 – 0.18

*** $p < .001$, ** $p < .01$, * $p < .05$

Model 2: Predictors of ED Attendance for Self-Harm

A logistic regression was conducted predicting ED attendance for self-harm (Table 2). Again, significant predictors are highlighted with alpha set to .05. Ethnicity was not included in Model 2 as there was no variability in ethnicity for this outcome. The overall model was significant, Wald $\chi^2 = 100.66$, N = 2860, $p < 0.001$.

Table 2. Predictors of ED Attendance for Self-Harm.

Predictor	**Coefficient**	**Robust Standard Error**	**P Value**	**95% CI**
Age (≥65 years)				
18-24 years	2.44	1.23	0.048*	0.02 – 4.86
25-44	1.16	1.21	0.336	-1.20 – 3.53
45-65	0.72	1.21	0.553	-1.66 – 3.09
Gender	-0.08	0.43	0.851	-0.93 – 0.77
LGBTQ+	-0.19	1.13	0.863	-2.41 – 2.02
Single	-0.69	0.62	0.267	-1.91 – 0.53
Neighbourhood	-0.25	0.41	0.543	-1.06 – 0.56
Financial Status (Worse Off)				
2 (Same)	-1.23	0.68	0.073	-2.57 – 0.11
3 (Better Off)	-0.88	0.73	0.229	-2.31 – 0.55
Education (No Qual.)				
2 (Vocational Qual.)	0.35	0.45	0.438	-0.53 – 1.22
3 (Degree or Higher)	0.17	1.01	0.867	-1.81 – 2.15
Non-Employment	0.54	0.53	0.304	-0.49 – 1.58
Mobility	0.76	0.78	0.331	-0.77 – 2.30
Self-Care	-0.33	0.69	0.633	-1.68 – 1.02
Usual Activities	-0.77	0.73	0.291	-2.21 – 0.66
Pain	-0.21	0.65	0.741	-1.49 – 1.06
Depression (PHQ-9	0.67	0.47	0.149	-0.24 – 1.59
Anxiety (GAD-7)	0.58	0.33	0.075	-0.06 – 1.22
Physical and Mental Health Co-existence	2.94	0.59	0.000***	1.79 – 4.10
Smoking (Current)	0.49	0.41	0.234	-0.31 – 1.29
Alcohol	-0.76	0.45	0.091	-1.64 – 0.12
Meet up Once a Week	-1.15	0.45	0.010 *	-2.02 - -0.27
There for Me	0.55	0.74	0.462	-0.91 – 1.20
Identity	-0.33	0.18	0.070	-0.70 – 0.03
*** *p* < .001, ** *p* < .01, * *p* < .05				

Results found that individuals aged 18-24 had 2.4 higher odds of attending ED for self-harm compared to those aged 65 years and above. Physical and mental health co-morbidity were also associated with higher odds of ED attendance; individuals who had both physical and mental health co-existence were 2.9 times more likely to attend ED for self-harm compared to those who did not have co-existence. Individuals who had people to meet up with were 1.2 times less likely to attend ED for self-harm compared to those who did not have people to meet up with.

Discussion

The current study provides a unique investigation of the demographic, socioeconomic, health and lifestyle predictors of self-harm and ED attendances for self-harm. Using community survey data focused on deprived areas, we provide novel insights into the potential causes of mental health inequalities and elucidate differences and similarities in effects between data sources. Results showed that younger age (18-24 years old), lower financial status, depression, anxiety and physical and mental health co-morbidity predicted self-harm. Similarly, age (18-24 years) and physical and mental health co-morbidity were associated with higher odds of attending EDs for self-harm. Social support was associated with lower odds of attending EDs for self-harm related reasons.

Consistent with the existing literature, depression and anxiety were both identified as significant predictors of self-harm. The strongest predictor of these was depression. Fliege et al. (2009) reported adolescents and adults who self-harm experience negative emotions, such as depression and anxiety, more frequently than people who do not self-harm. More recent literature has further supported the link between depression and anxiety and subsequent self-harm across different populations (Fliege et al. 2009; Islam, Khanam & Kabir, 2022; Paul & Fancourt, 2022). However, depression and anxiety were not shown to be associated with self-harm related ED attendance in the current study. This suggests a possible disconnect between self-harm behaviours and seeking help from services. Alternatively, it is possible that less severe suicidal crises and self-harm are associated with depression and anxiety, whereas more severe crises or self-harm that result in ED attendance are less likely to be linked to these symptoms.

Age has been identified as a key risk factor for self-harm, severity of self-harm and suicide (Ammerman et al. 2018; Muehlenkamp, Xhunga & Brausch, 2018). Analysis of self-harm data among a general population sample reported self-harm to be most prevalent in young women aged 16 to 24 years (McManus et al. 2019), which is consistent with the findings from the current study. Those aged 18-24 years were also more likely to attend EDs for self-harm in this study. This is consistent with work by Marchant and colleagues (2020) who reported high rates of self-harm related ED attendances among young people aged 10-24 years in Wales, United Kingdom. Thus, our work further emphasizes the need to focus suicide prevention strategies on children and young people.

The relationship between physical health and self-harm has been explored previously (Chan et al. 2016; Singhal et al. 2014). A systematic review by Chan et al. (2016) found that people were at higher risk of suicide and self-harm if they had poor physical health or chronic illness. Similarly, research has reported multimorbidity of physical illness and mental disorders increases suicidal thoughts and suicide attempts, compared to a control group (Kavalidou et al. 2019). Furthermore, Michell et al. (2017) reported hospital-treated self-harm among older adults was associated with mental health conditions, such as depression and anxiety, as well as higher odds of physical illnesses. The current study extends on these findings by suggesting that physical and mental health co-existence are a unique predictor of self-harm and self-harm related ED attendance, while adjusting for a range of sociodemographic and mental health confounds.

The finding that poorer financial status and social isolation increased the odds of self-harm and ED attendances for self-harm behaviours is particularly important given the sample was recruited from already deprived areas. This suggests that within deprived areas, people’s financial situation is still deteriorating and this in turn is affecting their mental health. This is consistent with research that has found both neighbourhood identity and socioeconomic status uniquely predict self-harm behaviours and suicidal ideation in the community (McIntyre et al. 2021). Moreover, the introduction of public safety guidelines and the furlough system in 2020 resulted in reduced financial security and increased isolation for many on low incomes in the UK, suggesting people may be at even higher risk of self-harm in the present socioeconomic climate. Hawton et al. (2021) explored pandemic-related hospital presentations for self-harm and reported that COVID-related factors of isolation and loneliness were most prevalent among ED attendees for self-harm. More work is needed to understand the effects of the pandemic on self-harm and ED related attendances for people experiencing poverty and living in deprived areas.

Strengths and Limitations

This study used a wide range of validated socio-economic measures in a community sample recruited from deprived areas, which has been a lacuna in past research. Examining the predictors of self-harm in the community is vital to improve efforts to prevent suicidal behaviour and subsequent healthcare presentations. Despite this, certain limitations must be acknowledged when interpreting the results. First, the survey is based on self-report measures. Indeed, due to the sensitive nature of questions, report bias may be an issue; for example, Mars et al. (2016) reported hospital attendances with self-harm to be under reported when utilising questionnaire measures. Second, self-harm was captured using a single-item measure. This may oversimplify self-harm by failing to examine the nature and intent of the self-harm. Furthermore, self-harm related ED attendance was captured by a yes/no response, which does not capture repeat/multiple presentations to EDs due to self-harm. Finally, the sample was obtained from relatively disadvantaged neighbourhoods in North West England; thus, the findings may not be generalisable to less deprived regions and other cultures. These limitations should be considered in the context of the need to design a large public health survey that assesses a range of social determinants and health outcomes.

Clinical Implications

Findings from the current study are particularly relevant to the COVID-19 pandemic and have important implications for research and clinical practice. Although data from this study was collected pre-COVID, factors such as loneliness, isolation and reduced community social support are arguably more relevant in the current climate. The current study reported that lower levels of social support increased risk of self-harm related ED attendance. Recent research, however, reports a decrease in self-harm related ED presentations, which could be a result of public health messages to stay at home and protect the NHS, concerns about contracting the virus, or lack of access / availability of services (Kapur et al. 2021). In the six weeks following lockdown, self-harm referrals to liaison psychiatry were reported to have dropped by 40% across Cambridgeshire & Peterborough NHS Foundation Trust (Chen et al. 2020). This finding is consistent with a recent study examining data across 1,714 UK general practices. The authors noted incidences of self-harm to be 38.5% lower in April 2020 than expected based on previous years and trends (Carr et al. 2020). This fall was particularly evident in those under 45 years, and people living in the most deprived areas. Given the relationship between the COVID-19 pandemic, lack of social support and access to services, ensuring appropriate and timely support available to individuals following self-harm is vital. Further work is needed to determine whether other available services for self-harm are accessible and appropriate in enhancing social support in the community, for example, Crisis Cafés; community spaces where people can go, instead of EDs if they are feeling emotionally distressed or are in a mental health crisis.

Furthermore, the present findings highlighted that both self-harm and self-harm related ED attendance are more prevalent in younger people. Thus, emphasising the need for strategies aimed at young people. Importantly, the highlighted age group overlaps with the age of students attending university. Research has shown a number of university-related risk factors for self-harm and suicide, such as sleep disturbance, university stress, isolation and loneliness (Russell et al. 2019; Shahzad, Munawar & Riaz, 2021). Tailoring interventions to support young people in crisis may be an important consideration for future work.

Conclusion

The current study examined the demographic, socioeconomic, health and lifestyle factors associated with self-harm and related ED attendances in relatively deprived communities in the UK. Younger age, physical and mental health co-morbidity, worse financial status and lack of social connectivity were identified as important risk factors for self-harm. The findings can support early identification of high-risk individuals and the implementation of tailored suicide prevention strategies in the community.

Author Statements

Ethical Approval

Ethical approval was obtained from the University of Liverpool (Ref: RETH000836). Participants provided written informed consent prior to taking part in the study.

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Competing Interests

None declared.

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Chapter 5: Factors Influencing Emergency Department Staff Decision-Making for People Attedning in Suicidal Crisis: A Systematic Review.

ED staff can play a crucial role in suicide prevention by ensuring compassionate and effective support and treatment for people presenting in suicidal crisis. Despite this, some staff receive minimal or no additional training or education on the care of such patients. NICE clinical guidelines (2022) provide a set of recommendations for the support, management, and treatment of self-harm presentations, but no recognition is given to those individuals in suicidal crisis who do not require any physical intervention. This is a key concern given that suicidal ideation is a strong risk factor for future suicidal and self-harm behaviour; thus, it is important to understand what influences staff decision-making in the absence of these clinical guidelines. Therefore, this next study aimed to explore the factors that influence ED staff decision-making for people in suicidal crisis by systematically reviewing existing literature in the field.

Note: This paper has been published as detailed below. Therefore, this chapter is formatted in line with the formatting requirements of the journal in which it has been published.

McCarthy, M., McIntyre, J., Nathan, R., & Saini, P. (2023). Factors influencing emergency department staff decision-making for people attending in suicidal crisis: a systematic review. *Archives of suicide research*, 1-15. https://doi.org/10.1080/13811118.2023.2173113

Abstract

***Background**:* Emergency department (ED) staff are often the first point of contact for individuals in suicidal crisis. Despite this, there is no published research systematically examining the factors influencing decision-making for this patient group.

***Methods**:* MedLine, CINAHL, PsycINFO, Web of Science and Cochrane Library databases were searched for three key concepts: (1) suicide, (2) accident and emergency department and (3) decision-making. Three reviewers screened titles, abstracts and full papers independently against the eligibility criteria. Data synthesis was achieved by extracting and analysing study characteristics and findings. The Mixed Methods Appraisal Tool (MMAT) was used to assess the quality of included studies.

***Results**:* Seventeen studies met the eligibility criteria and were included in this systematic review. Studies were published from 2004-2020 and were of good methodological quality. A number of patient (method of self-harm, age, gender), contextual (availability of services and staff) and staff-related factors (attitudes, training, knowledge) were reported to influence decision-making for patients in suicidal crisis presenting to EDs.

***Conclusion**:* Decision-making in the ED is complex and is influenced by patient, contextual and staff-related factors. These decisions can have an impact on the future care and clinical pathways of patients in suicidal crisis. Additional training is needed for ED staff specifically related to suicide prevention.

Keywords: suicidal crisis; emergency department; decision-making.

Introduction

Suicide is a major public health issue (WHO, 2019). A total of 5,224 deaths by suicide were registered in England and Wales in 2020 (Office of National Statistics, 2021). Suicidal thoughts and self-harm are associated with greater distress and are strong risk factors for death by suicide; indeed, individuals in crisis often need rapid care to minimise potential harm (Kienhorst, 1995). The prevalence of self-harm has been shown to have increased from 2.4% in 2000 to 6.4% in 2014 (McManus et al. 2019). This increasing prevalence of suicide-related thoughts and behaviours are a significant burden on the National Health Service (NHS) (Naghavi, 2019; Vigo et al. 2019).

The rates of suicidal presentations to EDs are rising and there has been a general increase in self-harm presentations between 2009 and 2018 (Stapelberg et al. 2020). An estimated 150,000 people experiencing self-harm present to EDs annually, accounting for 220,000 presentations (Hawton et al. 2007), with this figure expected to be much higher due to inconsistencies in coding (McCarthy et al. 2021). EDs are therefore a key setting for suicide prevention (Miller et al. 2017; Siry et al. 2021).

ED staff are often the first point of contact for individuals experiencing suicide-related distress (Ceniti et al. 2020; Perera et al. 2018). Despite this, staff receive minimal psychiatric training and few opportunities for additional education on the care of patients presenting for suicidal emergencies (Zun, 2012; Knorr et al. 2020). The National Institute for Health and Care Excellence (NICE) guidelines highlight the important role EDs have in the treatment, support and management of patients who self-harm (Morgan et al. 2018; Carr et al. 2016). However, there are no recommendations for the management of suicidal ideation within EDs (NICE, 2004).

Previous research suggests that several factors impact the decision-making and treatment for patients presenting in suicidal crisis. Most notable are factors related to a person's suicidal presentation (i.e., intent) and history (i.e., prior suicide attempt) (Miret et al. 2011; So et al. 2021; Unick et al. 2011). Staff-related factors have also been reported frequently in the literature. Specifically, a clinician's attitude towards self-harm, training and knowledge have been shown to influence patient experience and subsequent care (Owens et al. 2016; Saunders et al. 2012). The majority of research, however, is based in psychiatric hospital units which often reflect more severe and complex cases. There are a large cohort of patients who experience suicide-related thoughts and behaviours who are therefore not captured in this research.

Although research emphasises the importance of appropriate treatment plans and care pathways for patients in suicidal crisis, both internal and external factors may hinder the care of such patients. There is no synthesised evidence regarding the factors that affect decision-making of ED staff involved in the management of this group. The aim of this systematic review is to examine patient, contextual and staff factors influencing ED decision-making and how these specific factors can affect clinical pathways for patients presenting in suicidal crisis, with self-injury and/or following a suicide attempt.

Method

Protocol

The protocol was registered with PROSPERO (CRD42022303429). Available from: https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=303429

Search Strategy

A comprehensive search for relevant studies was conducted on five electronic databases (MedLine, CINAHL, PsycINFO, Web of Science and Cochrane Library) for three key concepts: (1) suicide, (2) accident and emergency department and (3) decision-making. Search terms were revised after the initial searches revealed new terms. MeSH terms were run in combination with free-text searches of titles and abstracts. A supplementary search was conducted to include the term ‘disposition’ following review of the included papers.

Eligibility Criteria

Studies were included if they reported factors affecting the decision-making of ED staff, including medical (e.g., triage nurses, ED doctors) and mental health staff (e.g., mental health nurses, consultant liaison psychiatrists). Studies were included if theory or past research hypothesised the factor would be related to decision-making. Studies were included regardless of whether they found significant effects related to clinical pathways or decision-making. Outcome variables were identified using relevant literature and included medical admission, self-discharge, psychiatric admission and psychosocial assessment. The study eligibility criteria are outlined in Table 1.

Table 1. Inclusion and exclusion criteria.

Inclusion Criteria **Population(s) and condition of interest**	**Population(s):** ED doctors, triage nurses, mental health nurses, psychiatrists/psychiatry residents, medical record coders, ED managers. **Condition of interest:** Suicidal ideation, self-harm, suicide attempt.
Intervention(s)/Exposure	People who have attended an ED for suicidal behaviour and/or thoughts.
Comparators	None.
Outcome	Factors influencing ED staff decision-making on patient clinical pathways. Outcomes included: admission to hospital, self-discharge, referral to psychiatric inpatient unit.
Setting	Accident and emergency departments.
Study Designs	Qualitative, mixed methods, randomised controlled trial, non-randomised quantitative studies.
Exclusion Criteria	Non-English language studies where translation could not be obtained. Studies only reporting on mental health, with no mention of suicide. Studies outside of the ED, e.g., psychiatric emergency units, GP setting. Studies examining patient decision-making. Exclude: protocols, chapters, case studies.

Study Screening and Selection

Three authors independently reviewed titles, abstracts and full texts against the eligibility criteria. Discrepancies were resolved through discussion. There was high agreement between authors (85%).

Data Extraction and Quality Assessment

Eligible full texts were subjected to data extraction and quality assessment by the primary author. Data were extracted on the study aims, design, location, sample size and demographic information. Detailed data relating to the factors influencing decision-making were also extracted.

The Mixed Methods Appraisal Tool (MMAT) was used to assess methodological quality of included studies (Pace et al. 2012; Pluye et al. 2009). All studies found in the review were included in data synthesis, regardless of risk of bias/quality assessment.

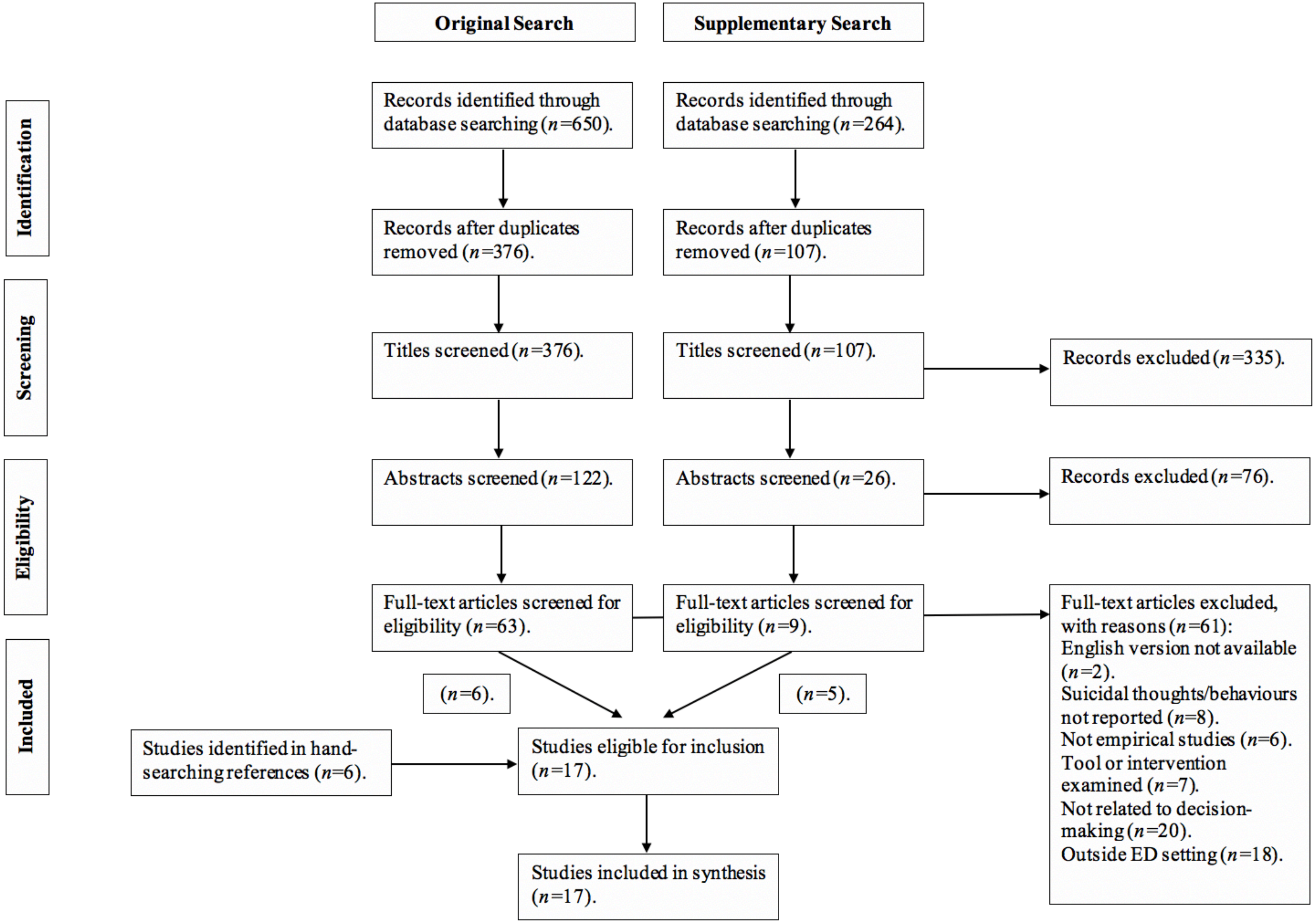
Data Synthesis

Narrative synthesis using the framework developed by Popay et al., (2006) was conducted. Using synthesis tables, the sample characteristics and factors(s) influencing decision-making were reported. The relationship within and across studies were explored by examining the similarities and differences between them (see supplementary Table 1 for further information).

Results

The search yielded 650 records from which 376 citations were screened. Sixty-one full texts were reviewed for eligibility. A supplementary search revealed an additional nine full texts to review. Seventeen studies were included in the final synthesis. Figure 1 outlines the flow of studies within the review.

Figure 1. PRISMA flow diagram indicating the steps taken to retrieve relevant articles for systematic review.



Study Characteristics

Included studies involved a range of ED staff (ED doctors, nurses, psychiatrists/psychiatry residents, medical record coders, ED managers) from Europe (*n*=8), USA (*n*=6), Australia (*n*=2) and Asia (*n*=1). The mean age of included participants was 34.84, with the majority of studies (n=14) including more female than male participants. The majority of studies (*n*=11) utilised hospital data sets as a means for data collection. Study characteristics and details are reported in Table 2.

Table 2. Studies Included in this Review.

Author(s)	**Study Design**	**Participants**	**Setting**	**Relevant Findings**
Arensman et al., (2018).	Cross-sectional	101,904 presentations, involving 63,457 self-harm attendances (2004-2012).	Ireland.	Male gender, older age, method of self-harm, time of attendance and residence of patient were identified as influencing care. Lethal methods of self-harm associated with psychiatric admission.
Baca-García et al., (2004).	Cross-sectional	Staff: On-call psychiatry residents. 509 patients following a suicide attempt (1996-1998).	Madrid, Spain.	Patient factors (intent, lethality, previous psychiatric hospitalisation and suicide attempt in past year) increased odds of hospitalisation.
Betz et al., (2013)	Questionnaire	631 ED staff. 48% were nurses and half were attending (22%) or resident (30%) physicians.	Eight EDs, USA.	Confidence among clinicians was higher for suicidal ideation screening (81-90%) than creating safety plans (23-40%). Screening for suicidal ideation associated with confidence, feeling that suicidal patient care was a top ED priority and 5+ postgraduate years of experience.

Drew et al., (2006).	Cross-sectional	Hospital A: Medical record coders. Hospital B and C: psychiatric residents. 163 presentations with suicidal ideation (*n*=110) or behaviour (*n*=53) over 1-month period.	Three EDs, Northeast Ohio, USA.	Regardless of a patient's level of suicidality, decision-making was cautious. Most patients admitted to psychiatric inpatient units (34.4%) or transferred to another facility (36.8%). Of the 19% discharged home, 6% referred to mental health services or addiction treatment programmes.
Egan, Sarma & O'Neill (2012)	Questionnaire	125 medical staff (28 doctors and 97 nurses).	Five EDs, Ireland.	Staff knowledge and confidence in managing self-harm influenced decision-making. The majority of staff felt 'somewhat confident' in responding to self-harm (74%). 63.2% reported a 'somewhat negative' attitude towards self-harming patients.
Faris et al. (2019).	Retrospective case review.	195 patients requiring psychiatric consultation (July-December 2016),	Beirut, Lebanon.	Hospital admission was associated with being female (OR=3.042), family history of psychiatric disease (OR=2.040) and suicidal ideation (OR=12.949). Living alone, age and employment status were not associated with hospitalisation.

Griffin, Gunnell & Corcoran (2020).	Cross-sectional	14,555 self-harm presentations (January 2017-December 2018).	ED, Ireland.	Patient factors were primarily associated with: 1) Self-discharge: male, younger age, alcohol involvement. 2) Medical admission: older age, drug overdose as sole method, ambulance presentations. 3) Psychiatric admission: male, lethal methods and older age. Variation in psychiatric admissions and psychosocial assessments was due to hospital factors (availability of psychiatric inpatient facilities and mental health staff).
Hepp et al., (2004).	Cross-sectional	Staff: Psychiatric residents. 324 presentations following a suicide attempt (1996-1998).	Zurich, Switzerland.	Older patients more likely to be hospitalised. Outpatient treatment was received more by women. Lethal methods, history of psychiatric inpatient treatment, and psychotic disorders were associated with inpatient treatment. Outpatient treatment was linked to adjustment and neurotic disorders.

Jiménez-Treviño et al., (2015).	Cross-sectional	2,281 suicidal presentations.	Three EDs. Madrid, Oviedo and Santa Cruz de Tenerife, Spain.	Intent was the most important factor impacting hospitalisation. Older age, living alone, self-harm method, history of suicidal behaviours, and psychiatric diagnosis of schizophrenia, mood, or personality disorder were independently associated with being admitted.
Kroll et al. (2018).	Questionnaire	40 adults requiring inpatient psychiatric care due to suicide risk.	USA.	25% of the patients could have been discharged had social support become available. Clinical severity was the only driver to admission decision.
McCann et al., (2007).	Questionnaire	43 ED nurses.	Australia.	Most nurses had no educational preparation or training to support self-harm. Over 20% had either no practice guidelines for self-harm or they did not know of their existence. One-third of those who were aware of their existence had not read them. Overall, nurses had sympathetic attitudes towards self-harm and did not discriminate in their triage or care decisions.

Phillips et al., (2015).	Cross-sectional questionnaire	211 mental health nurses.	Australia.	High level of variation in outcomes; despite agreement about the intent of self-harm. Agreement was often reached regarding intent, but not for imminent risk. Little agreement about whether to admit a patient with self-harm to hospital or treat in the community.
Polling et al., (2019).	Cross-sectional	20,750 self-harm attendances (2009-2016).	Four EDs, Southeast London, UK.	Admissions varied substantially between hospitals; one hospital was two and a half times more likely to admit than another. This was not altered by patient demographics, deprivation or self-harm method.
Pope et al., (2017).	Semi-structured interviews	11 ED doctors, 3 ED nurses, 3 managers and 4 inpatient doctors.	Three EDs, London, UK.	Service availability, outpatient alternatives, staffing, busyness, time of day and the 4-hour waiting time target influenced decision to admit ratherthan discharge. ED culture (staff attitudes, motivation and relationships) had a strong influence (negatively or positively) on the decision to admit patients.

Schmutte et al. (2019a).	Retrospective cohort analysis.	16,495 adults ≥65 years deliberate self-harm attendances.	USA.	Hospitalisation associated with recent depression and psychiatric inpatient care. People of African American ethnicity less likely to be hospitalised. 56.4% of community discharges received an ED medical disorder diagnosis and 39.0% received 30-day follow-up outpatient mental health care.
Schmutte et al. (2019b).	Retrospective cohort analysis.	50,472 suicidal ideation or self-harm presentations in 2015.	USA.	Self-harm with suicidal ideation attendances were most likely to result in hospitalisation (94.7%), compared to ideation (84.0%) or self-harm alone (73.1%). Hospital admission associated with current diagnosis of depression, bipolar, anxiety or personality disorder and severity of current medical comorbidity.
Schmutte et al. (2020).	Retrospective cohort analysis.	52,383 suicide-related Medicare claims for adults ≥ 65 years (2015).	USA.	Suicide attempt and ideation presentations were less likely to be discharged to the community than self-harm. These encounters were more

				likely to be diagnosed with a mental disorder in the ED and were also more likely to receive follow-up mental health care compared self-harm presentations.

Quality Assessment

The MMAT was used in this review. MMAT includes two screening questions followed by a series of additional questions dependent on the study design. These criteria are scored on a nominal scale (Yes/No/Can't Tell) and allow for the assessment of five main types of studies. Studies were rated as low (0-40%), medium (40-60%) or high quality (60%+). The majority of included studies (*n*=12) scored high. Reasons for lower quality ratings were low response rate (*n*=3), incomplete individual dataset (*n*=1) and limited statistical analysis (*n*=1). See supplementary Table 2 for further information on MMAT scores and the reasons for the assigned score.

Factors Influencing Decision-Making

The following section reports the primary outcomes of the systematic review: patient, contextual and staff factors that influence ED decision-making for individuals in suicidal crisis.

Patient

Patient-related factors were reported most frequently (*n*=13). Method of self-harm was cited most commonly insofar as patients using more lethal means were more likely to be hospitalised (Arensman et al. 2018; Baca-García et al. 2004; Hepp et al. 2004; Griffin, Gunnell & Corcoran, 2020; Jiménez-Treviño et al. 2015; Phillips et al. 2015). One study reported ED visits for self-harm with suicidal ideation were most likely to result in hospitalisation (94.7%), compared to suicidal ideation (84.0%) or self-harm alone (73.1%) (Schmutte et al. 2019b). Similar findings were reported by Schmutte et al. (2020), presentations for suicide attempts or suicidal ideation were less likely to be discharged than self-harm.

Age was shown as a key factor across included studies (Hepp et al. 2004; Griffin, Gunnell & Corcoran, 2020; Arensman et al. 2018; Jiménez-Treviño et al. 2015). Older patients were most commonly hospitalised, whereas younger patients were more likely to self-discharge (Griffin, Gunnell & Corcoran, 2020). One study, however, reported age to not be associated with hospitalisation (Faris et al. 2019). Variation was reported in relation to gender; for example, Griffin, Gunnell and Corcoran (2020) found that males were more likely to self-discharge and be admitted into a psychiatric facility, whereas Faris et al (2019) reported increased hospital admission for females. Ethnicity was noted in one study which reported patients of an African American ethnicity were less likely to be hospitalised (Schmutte et al. 2019a). Other patient factors, i.e., previous hospitalisations and axis I diagnosis (‘mood disorder') were also found to influence decision-making (Hepp et al. 2004; Jiménez-Treviño et al. 2015; Schmutte et al. 2019a; 2019b). Social support was noted in one study; Kroll et al. (2018) reported 25% of patients who had been hospitalised could have been discharged had social support become available. Living alone and employment status were not associated with hospitalisation (Faris et al. 2019). One study, however, reported that clinical pathways were not influenced by patient demographics, socioeconomic status and type of self-harm (Polling et al. 2019).

Contextual

Three studies noted contextual factors that affect ED decision-making. The availability of services and staff were reported across two studies (Griffin, Gunnell & Corcoran, 2020; Pope et al. 2017). Hospital location affected future care of patients presenting with self-harm (Arenman et al., 2018). For example, there was a reduced risk of self-discharge if presentations were made outside of Dublin City, Ireland (Griffin, Gunnell & Corcoran, 2020). Hospital facilities (e.g., onsite psychiatric in-patient facilities) also increased the likelihood of patients being admitted to a psychiatric ward compared to hospitals where the facilities were located offsite (Griffin, Gunnell & Corcoran, 2020). Other contextual factors reported were busyness, time of the day and the 4-hour wait target in EDs. Specifically, ED doctors, inpatient doctors and nurses were more likely to admit a patient rather than discharge if these factors were present (Pope et al. 2017). Hospital-related factors (location, availability of services and/or staff) explained the variation in care pathways for patients attending EDs in suicidal crisis (Arensman et al. 2018; Griffin, Gunnell & Corcoran, 2020). Arensman et al. (2018) reported regional variation in recommended next care; for example, general admission ranged from 11.2% in Dublin North East Hospital compared to 61.0% in the South Eastern Hospital Group. Admission to a psychiatric ward was also lowest in North Eastern Hospital Group (3.7%) and highest in the South Hospital Group (19.3%).

Staff

Some ED staff held negative attitudes towards patients in suicidal crisis. One study reported 63.2% of staff had 'somewhat negative' feelings towards self-harm (Egan, Sarma & O'Neill, 2012). Another study, however, indicated overall positive attitudes as evidenced by high levels of disagreement with several negatively worded questionnaire items, i.e., "individuals who attempted suicide in prominent places were primarily interested in seeking attention" (McCann et al. 2007). The culture of the ED was acknowledged in one study (Pope et al. 2017). Many participants felt that departmental culture (staff attitudes, motivation and relationships) had significant influences on admission practices for individuals in suicidal crisis.

Further, confidence and knowledge were reported to impact decision-making (Egan, Sarma & O'Neill, 2012; Betz et al. 2013). One study stated staff felt more confidence screening suicide than creating safety plans (Betz et al. 2013). Egan, Sarma and O'Neill (2012) reported 82% of staff had a good knowledge of self-harm and 74% expressed that they felt 'somewhat confident' managing self-harm. One study, however, reported most nurses had no educational preparation or training to support patients with self-harm and over 20% of EDs had either no practice guidelines or staff did not know of their existence (McCann et al. 2007).

Clinical Pathways

Variation in clinical pathways were reported within and between EDs. The most commonly noted pathway was psychiatric inpatient unit admission, which was reported in 11 studies (Arensman et al. 2018; Baca-García et al. 2004; Drew et al. 2006; Griffin, Gunnell & Corcoran, 2020; Jimenez-Travino et al. 2015; Faris et al. 2019; Hepp et al. 2018; Kroll et al. 2018; Schmutte et al. 2019a; 2019b; Schmutte et al. 2020). The majority of ED presentations in Schmutte et al (2019b) study resulted in hospital admission (81.9%), with most being admitted to an inpatient psychiatric unit (62.8%). Large variation was also reported by Griffin, Gunnell and Corcoran (2020). Their findings showed self-harm presentations resulting in self-discharge ranged from 4.7% to 17.8%; medical admission 8.2% to 53.0% and psychiatric admission 0.3% and 28.3%. Follow-up care was reported in Schmutte et al (2019a) who reported 39.0% of community discharged patient received 30-day follow-up outpatient mental health care. Similarly, those who attended EDs following suicide attempts or suicidal ideation were more likely to receive follow-up mental health support compared to those attending for self-harm (Schmutte et al. 2020).

Discussion

The aim of this review was to examine factors that influence ED decision-making for patients presenting in suicidal crisis, following self-harm and/or a suicide attempt. Three groups of factors were identified: patient, contextual and staff.

Patient factors were most commonly reported to affect care pathways (Arensman et al. 2018; Griffin, Gunnell & Corcoran, 2020; Faris et al. 2019; Hepp et al. 2004; Kroll et al. 2018; Schmutte et al. 2019a; 2019b; 2020). Notably, older age was associated with hospitalisation, whereas younger age groups were more likely to self-discharge (Griffin, Gunnell & Corcoran, 2020). Self-harm methods associated with greater lethality (e.g., attempted hanging or drowning) were associated with hospitalisation (Baca-García et al. 2004; Griffin, Gunnell & Corcoran, 2020; Schmutte et al. 2019b). Inconsistent findings were reported in relation to gender (e.g., Faris et al. 2019; Griffin, Gunnell & Corcoran, 2020). Staff attitudes, knowledge and confidence were also shown to influence decision-making within EDs (Egan, Sarma & O'Neill, 2012; McCann et al. 2007; Pope et al. 2017). Staff felt more confident at earlier stages of the clinical pathway, i.e., screening risk compared to creating safety plans (Betz et al. 2013). Contextual factors, including service and staff availability, were examined much less, yet were still reported to affect decision-making (i.e., Griffin, Gunnell & Corcoran, 2020; Pope et al. 2017). Hospital facilities (i.e., onsite psychiatric in-patient facilities) increased the likelihood of patients being admitted to psychiatric wards compared to hospitals where these facilities were located offsite (Griffin, Gunnell & Corcoran, 2020).

Prominent across the existing literature is the finding that patient-related factors (e.g., severity of psychiatric symptoms, suicide risk) significantly affects care pathways (So et al. 2021; Unick et al. 2011). This systematic review reported similar findings. Importantly, age, gender and self-harm method were reported in many of the included studies. Contextual factors (i.e., service and staff availability), however, have been reported less frequently in the literature. Despite the low number of studies, contextual factors were still shown to influence decision-making for patients presenting with self-harm. In contrast, George et al., (2002) reported site and bed availability were not associated with decision-making. Their study, however, was conducted across two emergency psychiatric services; thus, it is possible that the differences in presentations to EDs and psychiatric services explain the divergent effects.

A study conducted by Zun (2012) reported that EDs may not be the most effective setting to support individuals in suicidal crisis. Rutto et al., (2012) reported one third of nurses felt uncomfortable and nervous when attending to patients who had attempted suicide and more than half expressed frustration. This is consistent with the present review as confidence and attitudes towards self-harm were identified to influence care pathways. Contradictory findings, however, were reported; McCann et al. (2007) indicated positive attitudes across ED nurses, whereas Egan, Sarma and O'Neill (2012) noted negative feelings towards self-harm across ED nurses and doctors. Inconsistent findings could be a result of the difficulty in examining and measuring attitudes towards self-harm, particularly among medical staff (Egan, Sarma & O'Neill, 2012; Patterson et al. 2007).

Strengths and Limitations

This is the first systematic review to examine ED decision-making for patients in suicidal crisis. The review methodology was consistent with established standards (PRISMA guidelines) for study selection, data extraction and quality assessment.

The primary limitation of this systematic review relates to the small number of included studies; although, this is reflective of the lack of research into this patient group within an ED setting. It is notable that few studies have investigated contextual (service/staff availability) and staff-related factors in EDs. Studies were also only included if they were published in the English language, or where an English translation was available. This may explain the paucity of non-Western countries explored. Cultural variation in clinician attitudes towards self-harm may also be relevant (e.g., Ramon & Breyter, 1978). Furthermore, study data was extracted by the primary author, thus, limiting the validity and reliability of findings. The validity and reliability of reported findings would have been increased if more than one person extracted data from the included studies (Xu et al. 2022). Finally, the majority of included studies utilised hospital data sets as the primary means of data collection. This may limit current findings due to the underestimation of suicidal presentations to EDs. Research has reported self-harm presentations may be underrepresented by as much as 60% (Clements et al. 2016). Lack of coding for suicidal ideation may result in some presentations being missed, limiting the ability to draw accurate conclusions. Better coding practices and reporting of suicidal crisis among EDs would enable more accurate exploration into clinical pathways.

Implications for Clinical Practice

This review highlights the lack of research into the factors that influence ED decision-making. Particularly evident was the lack of studies examining contextual factors. The COVID-19 pandemic has exacerbated staffing pressures, with an increase in ED wait time and staff burnout due to the pandemic (Gemine et al. 2021; Mahase, 2022). Poor service availability can have detrimental effects on patient distress and delays in treatment can increase the number of patients needing emergency care. Future research is needed to further explore the impact of contextual factors on ED decision-making for patients in suicidal crisis.

This review also identifies an urgent need for mandatory and ongoing training for ED staff to improve knowledge and confidence in managing suicide-related presentations. Clinicians being cautious in their decision-making may be due to staff feeling unsupported and fearful of future adverse outcomes; the attribution of fault and personal consequences can lead staff to be risk averse (Nathan et al. 2021). Related to this is the possibility that staff do not have a framework by which to understand suicidal thoughts. Empirical studies can help staff better understand suicidal thoughts that in turn can lead to better approaches towards such patients. Evidence suggests that there is no gold standard for assessing and managing suicidal crisis (Harmer et al. 2022; Bernert et al. 2014). Future research would therefore benefit from developing, testing and implementing a measurement to examine ED training and confidence specifically for people attending in suicidal crisis. Integrating research and practice will be beneficial to support patients in suicidal crisis.

A patient’s experience and journey through the ED can be affected by staff attitudes. Negative attitudes can be conveyed through the way clinicians interact with patients, i.e., invalidating comments, which may be subtle or overt. The assessment approach can also impact patient outcomes (e.g., reduce feelings of hopelessness and in turn suicidal thoughts/behaviours) (Kapur et al. 2013). Equally, some clinicians adopt counter-therapeutic stances which may increase the likelihood of suicidal thoughts (Dunster-Page et al. 2017). Staff attitudes are therefore crucial to future help-seeking behaviour. Patients attending EDs in suicidal crisis also encounter a wide range of staff including receptionists, triage nurses and liaison psychiatrists. Prior research, however, mainly recruits nurses to explore attitudes towards self-harm. There is a need for a specific tool to measure a wide range of ED staff attitudes for treating and managing patients in suicidal crisis.

This review highlights substantial variation in the decision-making and subsequent care pathways for patients attending EDs in suicidal crisis. For EDs to assess, treat and support patients in suicidal crisis more effectively a better understanding of why there are differences between and within EDs is needed. This review is an initial step in exploring variation; however, there are still gaps in the current evidence base to be explored further. More research is needed on staff-based factors (i.e., clinicians’ conceptualisations of self-harm and uncertainty management) and contextual factors (e.g., the pressure to both manage limited resources whilst not ‘missing’ someone who goes on to seriously harm themselves). Finally, it will be important to explore the impact of different decision-influencing factors identified in this review on patient outcomes.

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Supplementary Materials

Supplementary Table 1. Similarities and Differences Between Included Studies.

	Patient Factors	**Contextual Factors**	**Clinician Factors**
Similarities	Self-harm associated with greater lethality associated with hospital admission (Arensman et al. 2018; Baca-García et al. 2004; Hepp et al. 2004; Griffin, Gunnell & Corcoran, 2020; Jiménez-Treviño et al. 2015; Phillips et al. 2015). Previous hospitalisations (Baca-García et al. 2004; Hepp et al. 2004). Axis I diagnosis (Hepp et al. 2004; Jiménez-Treviño et al. 2015; Schmutte et al. 2019a; 2019b).	Hospital location (Arensman et al. 2018; Griffin, Gunnell & Corcoran, 2020). Onsite facilities (Arensman et al. 2018; Griffin, Gunnell & Corcoran, 2020; Pope et al. 2017).	Knowledge and confidence of staff (Betz et al. 2015; Egan, Sarma & O'Neill, 2012).
Differences	Older patients were most commonly hospitalised, whereas younger patients were more likely to self-discharge (Griffin, Gunnell & Corcoran, 2020). Males were more likely to self-discharge and be admitted into a psychiatric facility		Staff attitudes: negative (Egan, Sarma & O'Neill, 2012), positive (McCann et al., 2007).

	(Griffin, Gunnell & Corcoran, 2020), whereas Faris et al (2019) reported increased hospital admission for females. Clinical pathways were not influenced by patient demographics, deprivation and type of self-harm (Polling et al. 2019).		

Supplementary Table 2. Mixed Methods Appraisal Tool Results for Included Studies.

Study ID	**MMAT Score (%)**	**Reasons for not scoring maximum**
Arensman et al., (2018).	75	Lack of information on psychosocial assessments.
Baca-García et al., (2004).	75	Did not include all possible patients who had attempted suicide.
Betz et al., (2013).	75	Use of only self-report measures.
Drew et al., (2006).	60	No evaluation of interrater reliability for included measures.
Egan, Sarma & O'Neill (2012).	60	Low response rate.
Faris et al. (2019).	75	Incomplete individual data.
Griffin, Gunnell & Corcoran (2020).	75	Incomplete individual data.
Hepp et al., (2004).	60	Limited statistical analysis.
Jiménez-Treviño et al., (2015).	60	Incomplete individual data.
Kroll et al. (2018).	60	Low sample size.
McCann et al., (2007).	75	Small sample.
Phillips et al., (2015).	50	Low response rate.
Polling et al., (2019).	75	Clinician type not specified.
Pope et al., (2017).	75	Researcher reflexivity not reported.
Schmutte et al. (2019a).	75	Incomplete outcome data.
Schmutte et al. (2019b).	75	Incomplete outcome data.
Schmutte et al. (2020.	75	Incomplete outcome data.

Chapter 6: Staff Perspectives of Emergency Department Pathways for People in Suicidal Crisis: A Qualitative Study

Findings from the systematic review in Chapter 5 revealed a number of factors (patient, contextual and staff factors) that influence the decision-making of ED staff. However, this is one of the few studies to look beyond patient-related factors, which is surprising given the current climate of the NHS and the well-known service and staffing pressures. Examining staff-related factors provides important insights into what can be and needs to be addressed at the individual level, as well as service level. This study, therefore, sought to examine a range of staff perspectives of people attending EDs in suicidal crisis, specifically focusing on contextual (e.g., service and staffing availability) and staff (e.g., attitudes, confidence) factors.

Note: This paper has been published as detailed below. Therefore, this chapter is formatted in line with the formatting requirements of the journal in which it has been published.

McCarthy, M., McIntyre, J., Nathan, R., Ashworth, E., & Saini, P. (2023). Staff Perspectives of Emergency Department Pathways for People in Suicidal Crisis: A Qualitative Study. *Journal of Psychiatric and Mental Health Nursing.* https://doi.org/10.1111/jpm.12991

Easy-to-Read Summary:

What is known on the subject?

- Emergency departments (ED) are key settings to support and manage suicidal crisis; thus, ED staff are often the first point of contact for people in suicidal crisis. Despite this, some ED staff receive little training and/or education on how to best support such patients.

What the paper adds to existing knowledge:

- Previous research focuses on one staffing role (e.g., triage nurses) whereas this paper includes staff working across the ED pathway. Administrative staff have often been excluded from research, despite representing a key part of the clinical pathway and being a person’s initial contact with the ED.
- Overall findings demonstrate that staff experience a lack of confidence, training and burnout due to regularly supporting people in suicidal crisis. Staff also perceive there to be a negative ED culture, which often leads to poor attitudes towards suicidal crisis. The main challenges reported are an increase in working pressures, unavailability of resources and staff retention.
- Findings build upon previous research to highlight key challenges different staff face along the clinical pathway and the implications this can have on a patient’s journey and follow up care provided.

What are the implications for practice?

- Findings are of particular importance and relevance to ED managers, and more broadly NHS England. Negative ED culture, poor staff attitudes and confidence can have a detrimental impact on both staff health and wellbeing, as well as a patient’s journey throughout the ED, resulting in repeat presentations and absconding as appropriate support is not received.
- Policymakers need to consider staff burnout and lack of resources in mental health care strategies, and training programmes should be developed to improve culture and confidence among ED staff and managers to improve care for people attending EDs in suicidal crisis.

Abstract

Introduction: Emergency departments (EDs) are often the first point of contact for people in suicidal crisis. Yet, previous work has tended to focus on only one type of staffing role, failing to account for different staff perspectives along the clinical pathway.

Aims: To explore and synthesise the perspectives of ED administrative (i.e., receptionists), medical (triage nurses) and mental health staff (liaison psychiatrists) working with people presenting in suicidal crisis.

Method: Qualitative study guided by thematic analysis of semi-structured interviews with 23 ED staff across six EDs in Cheshire and Merseyside, England.

Results: Findings demonstrate that staff experience a lack of confidence, training and burnout due to regularly supporting people in suicidal crisis. The main challenges reported are an increase in working pressures, unavailability of resources and staff retention.

Discussion: Staff felt unequipped to deal with suicide-related presentations. Organisational support is perceived to be lacking, with increased staffing pressures and poor service availability. This lack of support was linked to job dissatisfaction.

Implications for Practice: Findings are of particular relevance to individual EDs and NHS England. Addressing the challenges staff are reporting can have positive implications for staff wellbeing, as well as a patient's experience and journey throughout the ED.

Introduction

Emergency departments (EDs) play a critical role in supporting, managing and treating suicidal crisis presentations; thus, represent a key opportunity for suicide prevention and intervention (Stapelberg et al. 2020). Individuals in suicidal crisis experience significant distress, often including thoughts of death, and the more pervasive the suicidal crisis the more likely the individual is to engage in self-harm or attempt suicide (Knorr et al. 2020). It has been estimated that 9% of the world's population will experience suicidal thoughts at some point in their lives, 30% of whom will go on to make a suicide attempt (Al-Azri, 2020).

Little research, however, has focused on people presenting to EDs in suicidal crisis, particularly in the UK (Laxmisan et al. 2007). This is in stark contrast to people presenting following self-harm for whom recommendation for best practice and care are now included in the National Institute for Health and Care Excellence (NICE) clinical guidelines in England (Holmes et al. 2020). In addition to this, Nursing and Midwifery Council (NMC) standards in the UK include suicide intervention education as part of the undergraduate education for all fields of nursing (NMC, 2023). The National Health Service (NHS, 2019) Long Term Plan further highlights areas of action, however, lacks specificity related to suicidal crisis. The plan relates to ensuring people experiencing mental health crisis will have 24/7 access to mental health support and clear standards are available for access to urgent and emergency mental health care. There is also a push for alternative forms of provision for those in crisis, such as crisis lines, as an alternative option to EDs for those who are experiencing a crisis, but do not necessarily have medical needs that require ED admission.

Recent research has explored the reasons and factors which influence whether an individual attends the ED in suicidal crisis, however, the majority of studies have been conducted in Australia (e.g., Chamberlain et al. 2012) or America (e.g., Czyz et al. 2013; Downs & Eisenberg, 2012). One UK study examined the predictors of ED attendance for self-harm in deprived communities and reported increased attendances for people aged 18-24 years, with physical and mental health co-morbidity and lower levels of social support (McCarthy et al. 2023a). Although this research adds to the UK evidence base, the study did not consider the impact of ED staff on attendances. Moreover, suicidal presentations to EDs are underestimated by as much as 60% (Clements et al. 2016), due to inconsistent and inaccurate recording (McCarthy et al. 2021). Improved surveillance and monitoring of suicide is required for effective suicide prevention strategies and more accurate detection and documentation of who is at risk and who are attending EDs in crisis will better inform service developments and crisis care policy (WHO, 2021).

From a patient perspective, research has shown that a negative ED experience can result in individuals being less willing to engage with follow-up care post-discharge (Shand et al. 2018) and to return to the ED in a future suicidal crisis (Rosebrock et al. 2021). People presenting to EDs have often noted these negative experiences in the form of invalidating or stigmatising interactions with staff and excessively long waiting times (Quinlivan et al. 2021; Meehan et al. 2021). Further, due to the medical focus of ED treatment, suicidal crisis presentations often prioritise the assessment of physical safety, resulting in staff emphasising a medical approach over psychological care (Australian Institute of Health and Wellbeing, 2021).

From a healthcare perspective, however, staff have often noted not having appropriate time and resources to build rapport with people presenting in suicidal crisis (Petrik et al. 2015). Some research has suggested ED nurses and doctors have negative views towards those presenting in suicidal crisis and that some staff are inadequately trained in mental health, specifically the causes, crisis intervention and appropriate referral options for suicidal crisis attendances (Chapman & Martin, 2014; Rayner et al. 2019). There is an absence of research, however, examining staff perspectives in a UK ED setting.

Systemic issues within health services are also important considerations in the provision of ED care (Rheinberger et al. 2022). ED staff report struggling to provide appropriate care due to not being able to access essential resources, such as mental health inpatient beds (McGough et al. 2022; Cullen et al. 2019) and internal mental health professionals to ensure specialised person-centred care (Truet et al. 2021; Cullen et al. 2021). The ED environment is also complex and dynamic, requiring staff to make decisions under time pressure with multiple demands from various stakeholders, such as administrators, patients and colleagues (Al-Azri, 2020; Laxmisan et al. 2007). Understanding the common needs of all those who work within EDs is key to maximising the opportunity to reduce suicidal behaviour and can help future health system reforms to promote staff capacity, capability and wellbeing.

In sum, the number of people presenting to EDs in suicidal crisis has significantly increased over the last decade (Stapelberg et al. 2020); thus, ED staff are often the first point of contact for people in suicidal crisis. Despite this, some ED staff receive minimal psychiatric training and few opportunities for further education on the treatment and management of people presenting in suicidal emergencies (Zun, 2012; Knorr et al. 2020). Despite the stressful and demanding nature of the ED for *all* staff, previous research primarily focuses on one staff group (e.g., triage nurses), who represent only a small fraction of the clinical pathway. ED administrative staff have often been excluded from past research, despite being a patient’s initial contact with the ED, with this contact being linked to patient satisfaction (Jahangiri et al. 2023). In an attempt to address the limitations of previous work, the current study aimed to explore and synthesise the perspectives of ED administrative, medical and mental health staff working with people presenting in suicidal crisis to gain novel insights into the key challenges ED staff face when providing care in UK ED settings.

Method

Qualitative semi-structured interviews were conducted by the primary author with 23 ED staff who were involved with the management, support, and treatment of people presenting in suicidal crisis. A range of staff were recruited across all EDs to ensure staff views were captured at different points along the pathway. For example, ED receptionists at first point of contact, medical and ward staff, as well as mental health teams and psychiatry staff. It is important to note that interviews were conducted during ongoing COVID-19 restrictions and it was essential to recognise the pressures on EDs and ED staff during this time period.

Interviews were conducted with the aid of a topic guide to explore staff roles, views towards patients presenting in suicidal crisis, training, and factors influencing decision-making. Table 1 provides example questions. Interviews started with a brief introduction of the study aims, participants’ rights to withdraw, data protection and storage. Participants were given an opportunity to ask any questions before the interview commenced. Permission to audio-record the interview was obtained. Ethical approval was granted by the NHS Health Research Authority (IRAS ID: 298407).

Table 1. Example Questions from Interview Guide.

Overall Topic	Core Question
Job Role and Experience	Can you tell me about your role in regard to individuals who are attending EDs in suicidal crisis?
Decision-Making	Can you tell me about the decisions that you make when managing patients in suicidal crisis? What factors influence your decisions?
Attitudes	Can you tell me your views towards patients who attend EDs in suicidal crisis? Do you think others have the same view?
Training	Can you tell me about whether you think ED staff are adequately prepared to support patients attending in suicidal crisis?
Contextual Factors	Can you tell me about how service staff availability has influenced the care of patients attending in suicidal crisis?
Coding	Can you tell me about the current coding practices for suicidal crisis and any problems that you have noticed?
ED Environment	From your perspective, are EDs the best place to resolve suicidal crisis?

Data Collection

EDs in the areas of Cheshire and Merseyside were approached to take part in the study (n=9). Data were collected from six ED sites, which covered a range of socio-demographic localities (three EDs were located in urban areas and three in rural areas). Two Mental Health Trusts were covered, which are responsible for providing health and social care services for people with mental health disorders. All mental health staff were part of the ED core staff and were all based within the ED. The EDs were selected to reflect a broad spectrum of working environments and capture the variability of working practices across

EDs. Staff were eligible for inclusion if they were currently working in an ED setting in an administrative, medical or mental health role. No restrictions were placed on age, sex or length of time working in an ED setting.

Eight interviews were conducted online via Microsoft Teams and 15 were conducted in-person onsite. The reason for conducting onsite interviews was due to COVID restrictions in some ED sites and for some staff it was preferred due to time and resource limitations within their role. In-person interviews were conducted through opportunistic sampling to ensure a range of staff views could be captured. Onsite interviews also removed the barrier of certain staff groups, for example ED receptionists being underrepresented in research. Interviews took place from May 2022 to November 2022 and varied in length (13 minutes, 53 seconds to 1 hour, 4 minutes).

Data Analysis

Thematic analysis was used to explore patterns across the dataset. Analysis followed Braun and Clarke's (2021) steps of familiarisation, generation and definition of codes, theme searching and development. A hybrid approach was utilised, with a deductive approach to form the initial coding framework and inductive methods to capture unanticipated codes. Codes were then grouped into themes, with each theme representing a meaningful pattern in the data. All final themes were agreed upon by the study authors and discussed with the broader steering group of ED staff and public and patient advisors.

Results

A range of ED staff were recruited to take part in the semi-structured interviews (as shown in Table 2). Thirteen participants identified as female and ten as male.

Table 2. Recruitment Breakdown.

Job Role	Number of Participants
ED Receptionist	2
Physician Associate	1
Triage Nurse	1
Practice Development Nurse	1
ED Doctor	2
Consultant in Emergency Medicine	4
Mental Health Nurse	4
Mental Health Nursing Student	2
Liaison Psychiatry Doctor	1
Consultant Liaison Psychiatrist	2
Crisis Team Manager	1
Advanced Nurse Practitioner	2

Thematic analysis resulted in three themes which explore the perspectives of ED staff towards people presenting in suicidal crisis. Firstly, the factors that influence staff decision-making which relates to a lack of staff confidence, training, being risk averse, unavailability of resources and ED culture. The second theme focuses on the quality of care, namely the fast-paced ED environment, lack of staff autonomy and increased working pressures. The final theme explores staff burnout, mental health and wellbeing, which has been discussed in relation to lone working, team collegiality, staff retention and recruitment.

1. Factors that influence Staff Decision-Making

This theme describes a number of factors highlighted by ED staff to impact on their decision-making for people presenting in suicidal crisis. The category includes three concepts: lack of confidence, training and being risk averse, unavailability of resources and negative ED culture.

Lack of Confidence, Training, and Being Risk Averse

Staff described a lack of confidence regarding talking to patients about self-harm and suicidal thoughts: “Certain staff [ED ward staff] don’t want to ask the question in case they get a ‘yes’.” (Mental Health Nurse: 17). This was partly linked to perceived limitations of current mandatory training. Staff discussed a need to implement training for all ED staff on supporting people presenting in suicidal crisis.

> “There is an overall lack of confidence within staff for this patient group in particular, which needs to be addressed through training. But it’s the value and quality of training which needs to be improved. You know what mandatory training is like, you click through and you do the quiz at the end, that’s the whole thing. So, I think there needs to be something around awareness training, developing people's understanding, values and beliefs, but also enhancing their confidence to have conversation.” (Advanced Nurse Practitioner: 05).

Staff described feeling ‘anxious’, ‘weary’ and ‘fearful’ to make decisions regarding care, particularly in relation to discharge due to the potential risk of harm. Staff felt they cannot guarantee the outcome for the patient so have a sense of “needing to protect the Trust” (Consultant Liaison Psychiatrist: 01). This was evident across mental health staff who were employed by a Mental Health Trust separate to the general hospital staff. Across mental health staff, the issue of responsibility was regularly discussed: “…why would we discharge somebody with risk, when you've got a mental health team there commissioned to take that risk?” (Crisis Team Manager: 12). This was linked with a lack of clarity around job roles and expectations of hospital provision, for example, General Hospital staff not taking ownership over mental health presentations:

> “There’s a fear of taking ownership of mental health, particularly suicide presentations, and a view that if we keep it at arm's length that's going to be better for our Trust…we’ve got to protect our trust by being a bit wary about getting involved with that. And that comes from both sides, you can speak to General Hospital Trusts and say, “*well, you're a massive provider of mental health services”* and they be like *”oh no”*, almost in denial they play a role and just think that it’s the Mental Health Trust’s issue.” (Consultant Liaison Psychiatrist: 01).

Unavailability of Resources

Lack of beds contributed to poor flow, crowding, and difficulties in providing appropriate care in the ED. In particular, mental health staff often discussed feeling conflicted in decision-making, wanting to support the patient in the least restrictive way, while still recognising the pressure on services.

> "…you've got this kind of real delicate balance of someone who's now hesitant to accept admission, because of the bed or staff pressures. At some point, you feel as though there are available beds, but there's not a safe level of staffing to make that transfer of care. And then you're thinking, well do I need to now use the Mental Health Act legislation and that's a big kind of step in kind of intervention." (Liaison Psychiatry Doctor: 04).

Further, all staff often discussed the impact of high workload combined with waiting time targets and staff shortages on their decision-making. Both medical and mental health staff did not feel they had "adequate manpower" to "discuss trauma and suicidal behaviours in a psychologically safe way to inform practice" (Mental Health Nurse: 23). Participants also noted the long-standing nature of these issues: "…our ED has always been overworked and understaffed" (Consultant in Emergency Medicine: 10) and "I think COVID gets the blame for a lot, but we've always been short staffed" (Crisis Team Manager: 12).

Negative ED Culture

Staff often described their own attitudes towards patients attending in suicidal crisis in a positive way, e.g., 'empathetic', 'compassionate' and 'understanding'. However, terms such as 'attention seeker' and 'cry for help' were also often used, particularly for people who attended having self-harmed. This inherent, perhaps unintentional, use of negative language was evident across all staffing roles. Negative attitudes were perceived to stem from higher, older management structures, with these in turn shaping the views of newer, more junior staff.

> "…it's [attitudes] from the top down. So, if you've still got old management style, structures, cultures, behaviours and values that mental health patients have no right coming into A&E and that they shouldn't be here, then A&E staff will continue to have that culture and those responses to that patient group" (Crisis Team Manager: 12).

The aforementioned issues with training were linked to further problematic attitudes regarding tendencies to blame patients. Staff discussed the need for services and systems as a whole to address confidence, culture, and attitudes.

> “We don’t have adequate training to support or give us the confidence to advocate for this patient group. So, then it becomes a case of ‘it's not my fault’, it becomes a case of defensive practice…What I tend to see is staff members not having adequate evidence and because of that, what do we do? Blame the patient, find the reasons why they shouldn’t be here, and then sometimes invalidate their feelings.” (Mental Health Nurse: 23).

ED staff expressed a strong desire to assist people presenting in suicidal crisis, but were conflicted by feelings of futility, which were compounded with the re-presentation of ‘frequent attenders’. For many, this led to frustration, negative attitudes, and reduced empathy. Staff regularly discussed desensitisation to the seriousness of suicidal crisis. For example, participant 04 (Liaison Psychiatry Doctor) highlighted “sometimes staff don’t even know what the individual presentation is for, but they see ‘*Oh, it’s Mrs Jones again’* and automatically roll their eyes thinking it’s deliberate self-harm”.

Across all staffing roles explored, a lack of confidence and uncertainty was discussed in relation to talking to and supporting people attending in suicidal crisis. This led to risk averse practice among medical and mental health staff. The unavailability of resources, for example lack of mental health inpatient beds, overcrowding and long ED waiting times, were also shown to influence staff decision-making as medical and mental health staff often discussed feeling conflicted in decision-making, wanting to support the patient in the least restrictive way, while still recognising the pressure on services. The final sub-theme provides some exploration into the impact of ED culture on all ED staff. Attitudes, both positive and negative, were considered as well as the aforementioned issues with training specifically for suicide-related presentations.

2. Factors Influencing Quality of Care

Theme two discusses the factors influencing the quality of care provided by ED staff. This is related to the ED’s fast-paced environment which was reported to impact on all staff (administrative, medical and mental health). Staff autonomy and increased working pressures were also noted, this was particularly evident for mental health nursing staff.

Fast-Paced Environment

The ED environment is ever-changing and fast-paced. Staff discussed this in relation to staying up-to-date on referral pathways, available community services, and follow-up advice; the COVID-19 pandemic provided an additional challenge to this with the closure of services and introduction of alternatives, e.g., crisis lines. A positive initiative discussed by mental health staff was the introduction of the 'Side by Side Initiative' in which mental health liaison services work closely with general hospital staff to conduct assessments.

However, the debate as to whether staff believe EDs are the right environment for people in suicidal crisis was often considered. The 'chaotic', 'stressful' and 'noisy' environment was frequently cited by all staff as having a negative impact on someone in suicidal crisis. This was particularly concerning for ED administrative staff who discussed their 'worry' for people leaving the ED without seeing medical or mental health staff: "*We are the first ones they see, and we are telling them to wait in a horrible noisy waiting room…I worry about them leaving and going on to hurt themselves*" (08: ED Receptionist). Furthermore, staff emphasised the need for, but lack of, a calm and safe space dedicated to individuals seeking help for suicidal crisis:

> "A&E is the *wrong place* to be the *only place* for crisis. So, we need to make sure that we provide good care, but there also needs to be thoughts about how patients with non-medical aspects can be supported." (Consultant in Emergency Medicine: 05).

Staff also felt the ED environment did not allow sufficient time to engage with people in suicidal crisis. Almost all medical and mental health staff felt that this lack of time led to less comprehensive assessments, with a fear that this would result in insufficient treatment plans, and potentially future re-presentations. This was further exacerbated by a mandated key performance indicator whereby staff are expected to see and treat a patient within 4 hours of admission. Staff also worried that spending the necessary time with people presenting in suicidal crisis limited the time they had for other patients, resulting in increased waiting times.

Lack of Staff Autonomy and Increased Working Pressures

All ED staff report increasing role overload as a result of staff shortages, funding cuts, and increased patient numbers and acuity. The impact of working environment stressors was sometimes ameliorated by staff autonomy; however, this was inconsistently applied across EDs, particularly for mental health nursing staff.

> “We've had some liaison nurses who’ve came from other sites and nurses aren’t allowed to make a decision there. So, they’ll do the assessment, make a plan and then it’s got to go through the consultant. I’m sure our consultants here wouldn’t be very happy if we rang them up every time!” (Mental Health Nurse: 17).

The aforementioned desensitisation to suicidality was also worsened by long shift patterns, leading them to feel “morally distressed” (Mental Health Nurse: 23). Staff also raised concerns about individuals in suicidal crisis receiving inadequate care due to competing priorities within the ED. Working pressures were noted in relation to training, a lack of time, resources, and the need for staff ‘on the shop floor’ preventing adequate and ongoing suicide prevention training:

> “A&E is in crisis at the moment, staffing wise…what do you send someone on a resuscitation course or mental health course?” (Consultant in Emergency Medicine: 02).

The current physical environment of the ED was discussed by all staff as having significant impacts on the quality of care provided to people presenting in suicidal crisis due to the intensity of noise, busyness and lack of privacy. This impinges upon medical and mental health staff’s ability to provide effective and timely care to people in suicidal crisis. Furthermore, the ‘chaotic’ and ‘stressful’ ED waiting room was a particular concern for administrative ED staff. Increased working pressures was noted by all staff in terms of staff shortages, funding cuts, and increased patient numbers and acuity.

3. Staff Burnout, Mental Health and Wellbeing

The final theme explores staff burnout, mental health and wellbeing. This theme includes discussion around burnout, lone working and team collegiality, as well as staff retention and recruitment. Burnout was discussed and shown to impact on all of the different staffing roles recruited, which was mainly noted by medical staff (i.e., Consultants in Emergency Medicine) and mental health staff (i.e., Mental Health Nurses).

Burnout, Lone Working and Team Collegiality

ED staff described emotional exhaustion and trauma due to regularly supporting people in suicidal crisis. Most notably, mental health staff reported feeling futile about addressing patient needs, which they felt were rooted in broader social issues outside of their control. The pervasive feelings of futility alongside a strong willingness to help resulted in many ED staff feeling burned out.

Burnout across all staffing groups was also often noted in the context of lone working at night. Despite the higher number of presentations at night, staff were often alone with risks they were not comfortable or confident taking, which had a significant impact on their wellbeing:

> "A lot of our shifts are single manned… from five in the evening to eight in the morning... we are still busy, it's very stressful in there and you're the only receptionist and you've got to sort of take everything on board." (ED Receptionist: 14).
>
> "I've been impacted significantly. That's why I've actually had to come off of nights because I was seeing four or five patients every night, on my own, taking risks that I felt were more than I had capacity to take… forever been told *'it's on your head if I kill myself'*, '*are you going to let me go out here and kill myself'* at least 10 times a week." (Mental Health Nurse: 20).

However, all staff spoke positively regarding team support and collegiality, which boosted morale. This was particularly evident during the COVID-19 pandemic, where staff reported an increase in mental health presentations, as well as longer shifts with reduced staffing.

> "I'm sure there's days that most people walk in, and they go 'o*h, I don't think I can see another person*', but you do, and we all rally around each other. And the thing is, we've had quite a difficult time with COVID and lots of changes, but this team has weathered really well compared to others. I think it's because we're quite a strong team. But I think X is a really good hospital, they're really supportive, so that had had a knock-on effect." (Mental Health Nurse: 17).

Staff Retention and Recruitment

High workload, staffing pressures, burnout and poor resource availability were linked with job dissatisfaction. Many medical and mental health staff discussed the potential for early retirement or moving into a more academic role as they felt they "couldn't make any difference, couldn't make any change" in the clinical ED environment (Mental Health Nurse: 23):

> "It's become frustrating, it's become harder. It's not great anymore. I wouldn't be surprised if lots of people leave the profession and a lot of people don't join the

> profession. I certainly will be leaving it early, earlier than I would have otherwise." (Consultant in Emergency Medicine: 11).

Mental health nurses in particular discussed how the route into the profession often deters people from joining, amplifying the longstanding issues caused by poor staffing levels and limited resources. Students noted the value of longer placements and experience over university lectures, which lack specificity in relation to mental health.

> "You do all those general adult nursing skills and mental health is like, '*oh, and they might be depressed*', and that's literally like the one line at the end of every class. It's just not tailored or specific, it's very general." (MH Nursing Student: 022).

ED staff experienced several mental health impacts from attempting to provide care to people presenting in suicidal crisis while operating within the constraints of the ED system. Most notably, mental health staff reported feeling futile about addressing the needs of those attending in suicidal crisis, alongside a strong willingness to help which often resulted in staff feeling burned out. Feelings of burnout, high working and staffing pressures also resulted in certain staff discussing early retirement or changing career.

Discussion

Summary of Findings

The perspectives of all ED staff who manage and support people presenting in suicidal crisis can offer strategies to guide emergency health system reforms, with mutual benefits for staff and patients. This study sought to explore the perspectives and experiences of administrative, medical, and mental health staff who come into contact with people presenting in suicidal crisis. Overall findings demonstrate that staff experience a lack of confidence, training and burnout due to regularly supporting people in suicidal crisis. Staff also perceive there to be a negative ED culture, which often leads to poor attitudes towards suicidal crisis. The main challenges reported are an increase in working pressures, unavailability of resources and staff retention.

Comparisons with Wider Literature

Recent literature has shown that EDs are often the first point of contact for people in suicidal crisis, and are a common gateway to primary or community mental health support (Wise-Harris et al. 2017). All ED staff, however, questioned whether the ED setting is the best place for people experiencing suicide-related distress. The ED environment presented a number of challenges for staff in terms of the ‘chaotic’, ‘noisy’, and ‘busy’ nature; this was particularly worrying for ED administrative staff who experienced many people in suicidal crisis leaving before an assessment. The importance of these findings relates to the narrative that EDs may not be the right place for people in suicidal crisis (e.g., Rheinberger et al. 2022). There needs to be a push within the community for alternatives to EDs, as well as increased awareness of what is available and what services may be better suited to support individual needs (Banfield et al. 2022). Healthcare metrics (e.g., the 4-hour discharge target), were also perceived to be counterproductive to patient care by medical and mental health staff. The limited control over environmental factors was further exacerbated by staff’s perceived limited confidence in their ability to engage in conversations about suicide and therefore stratify risk. These findings have been mirrored in quantitative research; for example, McAllister et al. (2002) reported that nurses felt helpless dealing with deliberate self-harm in the ED.

Attitudes towards suicidal crisis were commonly discussed by all participants, both positively (empathy, compassion) and negatively (frustration, lack of understanding). Previous research into staff attitudes has also produced conflicting findings (McCarthy et al. 2023b). McCann et al. (2007) found nurses had a sympathetic attitude towards self-harm and did not discriminate in their decision-making, whereas Egan et al. (2012) reported that the majority of ED medical staff had a ‘somewhat negative’ attitude towards people presenting with self-harm. The current study furthers these findings to report inconsistent attitudes across a range of staffing roles, including administrative and mental health staff. Efforts should, therefore, be made for more collaborative working between all staffing roles to design evidence-based, regular teaching programme, targeting underlying negative attitudes and skill deficits. Linked with staff attitudes was the sometimes unempathetic culture of the ED that was suggested to be perpetuated by older management structures. While ED culture has often been discussed in relation to patient satisfaction, healthcare quality and staff satisfaction (Armstrong et al. 2019), this study furthers understanding of the impact of culture in relation to suicidal crisis presentations by exploring the perceived reasons behind a negative culture (role of management) and how negative culture may be continually reinforced (issues with training). This is of particular importance and relevance to ED managers, and more broadly NHS England, since negative ED culture can have a detrimental impact on a patient’s journey throughout the ED, resulting in repeat presentations and absconding as appropriate support is not received (Quinlivan et al. 2021).

The current study highlights the substantial systemic barriers facing ED staff from the present sample in providing quality care. Limited time, resources, and space to have private conversations were noted by medical and mental health staff, resulting in poor care for both staff and patients. Similar findings have been reported in relation to the overall lack of inpatient psychiatric beds in general hospitals, particularly during and following the COVID-19 pandemic. A survey carried out by the Royal College of Psychiatrists (2021), 85% of 320 psychiatrists stated there was more pressure on beds compared with previous years. The vast majority (92%) estimated there were less than 5% of beds available in their Trust, compared with the recommended threshold of 15%. The availability of resources was also shown to have a significant impact on decision-making, with a quarter of respondents stating they would delay admission and treat in the community and a third noting they would look for an out-of-area placement (when a person with acute mental health needs who requires inpatient care is admitted to a unit that does not form part of the usual local network of services) (Royal College of Psychiatrists, 2021). It is important to note, however, that all staff in the current study expressed these issues were also present pre-pandemic indicating long-standing systemic barriers to effective treatment. These findings are of relevance to policy makers and have important implications for allocating funding, as more efforts therefore need to be made to ensure appropriate resources are available inside and outside of the ED to reduce the compound pressure placed upon ED services.

Staff burnout appeared to be linked to poor patient outcomes (e.g., repeat presentations), heightened responsibility (e.g., lone working), and career disillusionment. While the high incidence of burnout in ED medical staff is evident in the literature (Moukarzel et al. 2019; Dixon et al. 2022), mechanisms that contribute to staff burnout, such as lone working and risk burden, have not been previously explored, particularly across different staffing groups. The current study also highlighted how burnout had an impact on all staff, their decision-making and risk averse practices. The fear of future adverse outcomes for a patient, staff member and the organisation has been shown to increase risk-aversion, particularly among mental health staff (Nathan et al. 2021). This is consistent with previous studies showing that staff suffering from burnout are more likely to be weary in their decision-making (Gabriel & Aguinis, 2022), less likely to provide positive and compassionate care (Rozo et al. 2017; Watson et al. 2019) and are more likely to transfer or resign from positions in the ED (Li et al. 2018; Schneider et al. 2019). This is problematic given that experienced ED staff are most likely to exhibit positive attitudes towards people presenting in suicidal crisis (Ngune et al. 2021; Østervang et al. 2022). Efforts therefore need to be made within individual hospital trusts, NHS England and education reforms to promote the recruitment and retention of ED staff.

Strengths and Limitations

The current study is the first qualitative exploration to consider a wide range of ED staff views and experiences related to people presenting in suicidal crisis and provides previously undiscovered insights. Staffing groups such as administrative and mental health nurses are often under-represented in research (Bifarin et al. 2022), yet play a vital role in the support of mental health attendances. This study provides an in-depth analysis of their experiences and roles in supporting suicide-related presentations. Despite this, some key limitations should be considered. The proportions of each role included in this study may not be reflective of the ratios found within EDs. Although attempts were made to examine a wide range of job roles across different EDs, certain staff, for example clinical support workers, were unable to be recruited. Some interviews were also conducted in-person in EDs, which provided additional challenges, such as limited time, external distractions, and no private space for staff to speak freely. This may have introduced some bias into responses, particularly when discussing sensitive topics such as attitudes and culture.

Clinical and Research Recommendations

Several recommendations for clinical practice arise from the study, which have been summarised in Supplementary Table 1.

A key finding from the current study is the inherent, perhaps unintentional, use of negative language across all staffing roles. Particularly novel was the fact that this use of language was not necessarily reflective of outwardly negative attitudes to suicidal crisis, nor was it intended to be disparaging. For instance, staff would often discuss their compassion and empathy for people in suicidal crisis, yet use terms such as ‘attention seeker’. This may be due to the top-down culture within the EDs, whereby out-dated terminology may still be used by managers or more experienced staff members and therefore transferred to more junior staff. Thus, existing management style, structures, language and behaviours towards people in need of mental health support need to be improved. This is particularly relevant for medical and mental health staff in which negative language and attitudes towards suicidal presentations has been linked with a patient’s reluctance to engage with services (Masuku, 2019).

Furthermore, administrative and medical staff often discussed how they felt ill-equipped to manage and support suicide-related presentations. Staff felt unsure of how to approach conversations about suicide and feared not knowing what to say if a patient did disclose such thoughts. This was particularly concerning for administrative staff, who were often presented with these difficult situations, but did not have the clinical training or expertise of medical staff. They noted how having a resource to help with what to say in these situations would help. Future research should explore and evaluate possible resources and training to better equip *all* ED professionals to engage with people presenting in suicidal crisis and Trusts may want to consider offering further training to all staff. Additionally, future reform efforts should consider providing training that integrates a compassion-focused approach, including equipping staff with evidence-based explanatory formulations for patients presenting in suicidal crisis, so that they are able to resist the problematic explanations mentioned above (e.g., attention-seeking).

Following the interviews, mental health nursing staff in particular often reflected on the cathartic nature of discussing their experiences of working with people presenting in suicidal crisis. Limited research has been conducted into the potential therapeutic effects of qualitative research (Opsal et al. 2016), particularly in relation to this topic. There is a possible ‘research as intervention’ effect in which staff taking part in qualitative research seem to benefit from the opportunity to reflect on the wide issues that impact on their role. Organisations that are receptive to this type of research may see a positive impact on staff by allowing them to think and talk freely about these issues.

Conclusion

This study examines the experiences and perspectives of ED administrative, medical and mental health staff when supporting people attending in suicidal crisis. Although findings suggest ED staff are motivated to provide a high level of care for people in suicidal crisis, the current ED environment, organisational pressures and staff burnout are significantly impacting on this. The concerns raised by ED staff in this study are consistent with those reported by patients themselves, such as difficult physical environments, and poor access to resources and mental health staff (Rheinberger et al. 2021). Policymakers need to consider staff burnout and lack of resources in mental health care strategies, and training programmes should be developed to improve culture and confidence among ED staff and managers to improve care for people attending EDs in suicidal crisis.

Relevance Statement

ED staff are often the first point of contact for people in suicidal crisis. Previous research, however, fails to account for a wide range of staff views and experiences. The current study demonstrates that staff experience a lack of confidence, training and burnout due to regularly supporting people in suicidal crisis. Staff also perceive there to be a negative ED culture, which often leads to poor attitudes towards suicidal crisis. The main challenges reported are an increase in working pressures, unavailability of resources and staff retention. Findings are particularly relevant to individual EDs, as well as more broadly NHS England, and can have important implications for both ED staff wellbeing and patient care. Policymakers need to consider staff burnout and lack of resources in mental health care strategies, and training programmes should be developed to improve culture and confidence among ED staff and managers to improve care for people attending EDs in suicidal crisis.

Author Statements

Declaration of Interests

None declared.

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Ethical Approval

Ethical approval was granted by NHS Health Research Authority, Integrated Research Application System (IRAS ID: 298407). Verbal consent was obtained, witnessed and audio-recorded from all participants. Participants were given an information sheet and consent form prior to the interview and was given time to read and review the documents. All participants were reminded they could take breaks at any time or refuse to answer any questions without reasoning. The right to withdraw (up until the point of data analysis) was also reinstated prior to the interview.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Supplementary Materials

Supplementary Table 1. Implications and Recommendations.

Key Areas Identified	**Implications for Staff, Patients and Clinical Practice**	**Recommendations**
Poor Staff Confidence, ED Culture and Use of Negative Language	Poor attitudes and language used towards patients – terms such as 'attention seeker' being negatively used particularly in relation to self-harm presentations. Significant impacts on patient experience and clinical pathways. Risk averse decision-making as staff feel unable/weary to engage in conversations about suicidal thoughts and behaviours. Defensive practice.	Mandatory and ongoing training is needed to improve staff confidence, knowledge and attitudes. Collaborative working between all staffing roles to design evidence-based, regular teaching programme, targeting underlying negative attitudes and skill deficits.
Staffing Pressures and Working Environment	Lack of resources and service availability, staff are limited in their decision-making, which in turn can negatively impact on patient clinical pathways. Lone working of a night, staff to be risk averse in their decision-making. Lack of person-centred care.	Full staff team, with more staff working of an evening and night, Boost recruitment for nurses – rethink educational curriculum for nurses, more vocational courses.

Staff Autonomy and Team Collegiality	Only certain staff allowed to make decisions about discharge, this can increase waiting times for patients and increase pressure on certain staff groups. Team support positively boosted staff morale and wellbeing. Reduced staff burnout linked with better patient experience.	How can we prepare certain staff groups, e.g., mental health nurses, to make independent decisions about risk and discharge – improve training, regular supervision. Allowing staff protected time to debrief, offload and discuss.

Chapter 7: “No Abnormality Detected”: A Mixed-Methods Examination of Emergency Department Coding Practices for People in Suicidal Crisis.

Chapter 7 utilised data across six EDs in Cheshire and Merseyside to explore coding practices for suicide-related presentations. As highlighted in the above chapters, coding practices specifically for suicidal crisis are often inaccurate and lack precision. However, existing research has been limited for a number of reasons: (1) search strategies to identify presentations from EHRs have been restricted to one code (i.e., chief complaint), (2) research has often only examined data across one ED, and (3) to the best of our knowledge no study to date has explored the reasons behind inaccurate coding practices from the perspectives of staff. Therefore, this next study aims to address these limitations by employing a mixed-methods design. Findings have important implications for training and ED coding guidelines, as well as considerations regarding how to make EHRs “user friendly” and more effective for patient care.

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McCarthy, M., McIntyre, J., Nathan, R., & Saini, P. “No Abnormality Detected”: A Mixed-Methods Examination of Emergency Department Coding Practices for People in Suicidal Crisis. (Revised and Resubmitted in Archives of Suicide Research).

Abstract

Background: Accurate identification of suicidal crisis presentations to emergency departments (EDs) can lead to timely mental health support, improve patient experience, and support evaluations of suicide prevention initiatives. Poor coding practices within EDs are preventing appropriate patient care. Aims of the study are (1) examine the current suicide-related coding practices, (2) identify the factors that contribute to staff decision-making and patients receiving the incorrect code or no code.

Method: A mixed-methods study was conducted. Quantitative data were collated from six EDs across Merseyside and Cheshire, United Kingdom from 2019 to 2021. Attendances were analysed if they had a presenting complaint, chief complaint, or primary diagnosis code related to suicidal crisis, suicidal ideation, self-harm or suicide attempt. Semi-structured interviews were conducted with staff holding various ED positions (n = 23).

Results: A total of 15,411 suicidal crisis and self-harm presentations were analysed. Of these, 21.8% were coded as ‘depressive disorder’ and 3.8% as ‘anxiety disorder’. Absence of an appropriate suicidal crisis code resulted in staff coding presentations as ‘no abnormality detected’ (23.6%) or leaving the code blank (18.4%). The use of other physical injury codes such as ‘wound forearm’, ‘head injury’ were common. Qualitative analyses elucidated potential causes of inappropriate coding, such as resource constraints and problems with the recording process.

Conclusion: People attending EDs in suicidal crisis were not given a code that represented the chief presentation. Improved ED coding practices related to suicidal crisis could result in considerable benefits for patients and more effective targeting of resources and interventions.

Key Words: Suicidal Crisis; Emergency Departments; Coding Practices.

Introduction

Suicidal crisis is a spectrum ranging from thoughts of death with no intent or plan to act upon these thoughts, to specific suicidal thoughts with an intention and plan to die by suicide (Saini et al. 2021). It has been shown that the more pervasive the suicidal crisis, the more likely the individual is to engage in self-harm or attempt suicide (Kienhorst, 1995). It is estimated that 9% of the population across the world will experience suicidal thoughts at some point in their lives, 30% of whom will go on to make a suicide attempt (Nock et al. 2008). It is imperative to intervene and support at the earliest opportunity to reduce individual distress.

The recording of suicidal crisis in emergency departments (EDs) is inconsistent and lacks precision, which can impede appropriate referral and follow-up (McCarthy et al. 2021). EDs are often the first point of contact for people experiencing suicide-related distress (Centri, Heinecke & McInerney, 2020; Perera et al. 2018) and while data are available on attendances for self-harm, no comparable data exist for suicidal crisis in the United Kingdom. Data available from the Northern Ireland Registry of Self-Harm, however, has reported a total of 14,695 presentations to hospital due to suicidal ideation (Griffin et al. 2020). Poor data capture, in the United Kingdom in particular, makes it more difficult to provide adequate care.

High healthcare usage in the period preceding suicide or suicide attempts suggests that healthcare professionals have an opportunity to identify and intervene to protect people (Ross et al. 2023). In the year prior to suicide, 25% of people have been in contact with mental health services with 40% having been to the ED (Ahmedani et al. 2019). Furthermore, examination of contact with primary and secondary care prior to suicide in Wales from 2000-2017, revealed that in the month prior to suicide 16.6 and 13.0% of cases had an ED contact and a hospital admission respectively, compared with 5.5 and 4.2% of controls (John et al. 2020). Little research, however, has examined coding practices for patients presenting to EDs in suicidal crisis. This is surprising given that the National Institute for Health and Care Excellent (NICE) clinical guidelines in England now include best practice and care for self-harm patients, which covers assessment, management and preventing recurrence for children, young people and adults who have self-harmed (NICE, 2022). Despite the growing recognition that self-harm is a major public health issue (Islam et al. 2022; Knipe et al. 2022), identification of presentations from ED datasets are difficult. In England, more than 200,000 self-harm presentations are recorded in EDs annually (Hawton et al. 2007). However, data underestimates suicide-related attendances by as much as 60%

(Clements et al. 2016), due to inconsistent and inaccurate coding practices. Clements and colleagues, however, did not investigate the factors that underpin inaccurate coding by staff, which is a gap we aim to address in the present study using a mixed-methods approach.

Every attendance to the ED is recorded in a database – electronic health records (EHRs) represent a pivotal shift in healthcare documentation by providing a system to store and manage patient health information. Certain data for example demographics, admission information and diagnoses, are routinely collected within these records, in which this data can be extracted, collated and analysed. Across EDs, International Classification of Diseases (ICD-10) and Systemised Nomenclature of Medicine – Clinical Terms (SNOMED CT) codes have been used to capture presentations, which include diagnostic codes related to ‘suicide attempt (event)’ and ‘suicidal thoughts’. However, in practice, the code for suicidal ideation is inconsistently applied, potentially due to unclear guidelines (Anderson et al. 2015). There is conflicting evidence regarding what is used, and this makes it difficult to obtain accurate rates of suicidal crisis (McCarthy et al, 2021; Sveticic, Stapelberg & Turner, 2020). Further to this, staff often receive little or no training related to coding presentations and additional contextual factors can hinder their decision-making (McCarthy et al. 2023a). To date, no research has collated data from multiple ED sites, nor explored the reasons behind inaccurate and inconsistent coding for suicidal crisis presentations.

Accurate detection and documentation of suicidal crisis is critical to understanding future risk and for improving services. A better understanding of patient presentations and subsequent journey throughout the ED could have important implications for patient experiences, which in turn may reduce repeat presentations by ensuring appropriate care is received. More accurate data should also facilitate better decision-making at the level of service provision and policy (e.g., service design, clinical pathways and resource allocation). Therefore, the current study aims to investigate:

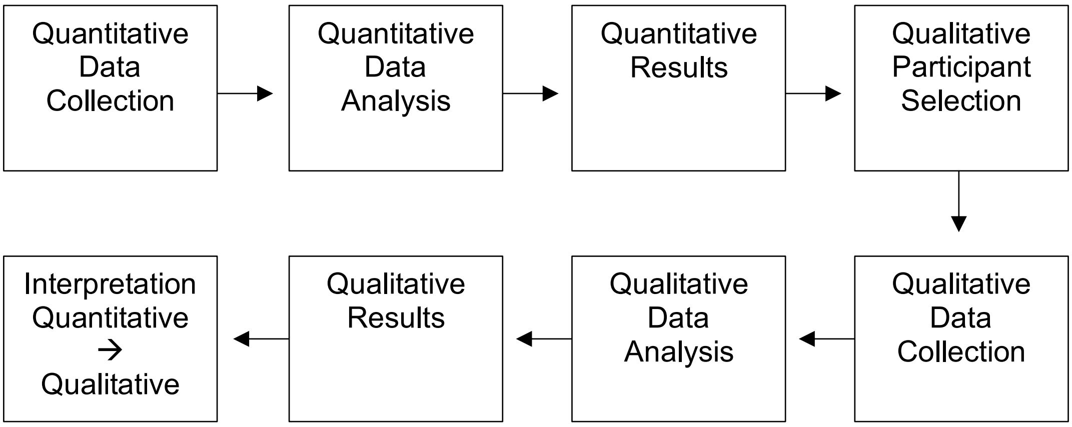
(1) the current suicide-related coding practices among EDs in Cheshire and Merseyside, United Kingdom – identifying the most common codes used and the extent of missing data.
(2) the factors that contribute to staff decision-making and patients receiving the incorrect code or no code.

Methods

Design

A mixed-methods explanatory sequential study design was adopted (Creswell & Plano Clark, 2017). This is a two-phased mixed-methods design which starts with the collection and analysis of quantitative data, followed by the collection and analysis of qualitative data to build upon the initial findings (see Figure 1).

Figure 1. Mixed-Methods Explanatory Sequential Design.



Sample

Quantitative data was obtained from a secondary dataset of 15,411 suicidal crisis presentations across six EDs in Merseyside and Cheshire, United Kingdom. Qualitative data was gathered through semi-structured interviews (*n*=23) with staff currently working in an ED setting. Staff were recruited from a range of roles along the clinical pathway: e.g., ED receptionist, triage nurse, ED doctors, mental health nursing staff and consultant in liaison psychiatry.

Setting

The United Kingdom has a universal healthcare system (the National Health Service, NHS), in which EDs represent a key setting for 24/7 urgent and emergency care. Most patients self-present to EDs, although some may have had contact with an NHS service beforehand (e.g., ambulance services or a medical helpline). Upon arrival, a person will present to reception and at this point, ED administrative staff will ask about the presenting problem and book the individual in, choosing an appropriate initial complaint code to best describe the reason for the visit. In accordance with the Emergency Care Data Set (ECDS), patients will be assigned a score of 1 to 5 to highlight the severity of a patient's condition and urgency with which they need to be seen and assessed by a clinician. Triage is part of the pathway used to prioritise patient treatment so that the most acutely unwell patients are seen first. depending on the individual needs and clinician assessment, a person can be admitted into hospital to manage and treat physical injuries or referred to liaison psychiatry for a mental health psychosocial assessment.

Measures

Quantitative Data

Quantitative data were extracted from records within six EDs in Merseyside and Cheshire, United Kingdom. Quantitative coding data was extracted for all suicidal crisis, suicidal ideation, self-harm and suicide attempt presentations from the 1st January 2019 to 31st December 2021. Data were included if the presentation included a suicide-related code as part of the chief complaint, presenting complaint, primary diagnosis code or secondary diagnosis code. Supplementary Box 1 includes an example search strategy from one ED.

Quantitative data were extracted on attendees' demographic information (age, sex, ethnicity), attendance information (arrival mode, date and time), coding information and outcome (left before assessment, referral to liaison psychiatry). Different data and variables were available across the participating EDs, for example some EDs did not have outcome data available for analysis (see Supplementary Table 1 for comparison across sites).

Qualitative Interviews

Qualitative semi-structured interviews (*n*=23) were conducted as part of a wider study, where participants were asked about their roles, training, service and staff availability, and factors influencing decision-making (see Supplementary Table 2 for example questions). Further information on the study method and analysis is available in McCarthy et al. (2023b). For the purpose of this paper, only data relating to coding practices and decision-making were included in the analysis.

Participants' permission to audio-record the interview was obtained. Eight interviews were conducted online via Microsoft Teams and 15 were conducted in-person onsite. Onsite recruitment was conducted opportunistically and increased the representation of different staff; for example, ED receptionists have typically been underrepresented in ED research (Van Sleeuwen, 2014). Of the six EDs included in the quantitative study, we were able to interview staff across five of those EDs. Thirteen participants identified as female and 10 as male. Interviews varied in length from 14 to 65 minutes.

Data Analysis

Quantitative

Quantitative data analysis was conducted using Statistical Package for Social Sciences (SPSS) software version 27. Presenting complaint and chief complaint were merged together for the analysis due to inconsistent variable labelling across the participating Eds. We have now named this ‘initial complaint’ for the purpose of this study. Due to the variation of data availability for secondary diagnosis codes across EDs (see Supplementary Table 1), only primary diagnosis codes have been used in the analysis. Descriptive analyses were conducted to examine the primary diagnosis codes received when the initial complaint was a suicide-related code. Frequencies and percentages were examined. Percentages presented refer to ‘valid cases’, i.e., cases for which the relevant information was available.

Qualitative

Qualitative data were analysed using reflexive thematic analysis (Braun & Clark, 2021). One author (MM) hand-coded the data and discussed codes with the research team. The Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist was used (Booth et al. 2014). The purpose of qualitative work was to provide an explanatory role supporting the quantitative findings. A hybrid approach was used in which the initial coding framework was based on the quantitative findings and coded according to them; a deductive approach was also used to allow for unanticipated codes. Relevant qualitative data is thus presented alongside the quantitative data, in line with the explanatory mixed-methods design.

Public and Patient Involvement (PPI)

The team consulted with people with lived experience of attending EDs in suicidal crisis to inform the design of the study on a tri-annual basis. The PPI group advised on the development of information sheets, recruitment methods, wording of questions and development of the interview schedule. The study steering committee, which comprised of a range of professionals working within an ED setting, offered invaluable guidance throughout the project. As stated by The National Institute for Health Research (NIHR, 2019) as good practice at least two members of the PPI group also attended meetings with the steering committee.

Ethical Approval

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008. All procedures involving human subjects/patients were approved by the NHS Health Research Authority, Integrated Research Application System (IRAS ID: 298407). Research passports were obtained for each individual ED from the general hospital trust. Verbal consent was obtained, witnessed and formally audio-recorded from all participants for the qualitative interviews.

Results

Characteristics of the Quantitative Sample

During the study period from 2019 to 2021, a total of 15,411 suicidal crisis presentations were examined across six EDs in Cheshire and Merseyside, United Kingdom. Characteristics of the quantitative sample are presented in Table 1. Just over half of the presentations were made by individuals who identify as female (55.1%), just under half as male (44.8%) and 0.1% identified as non-binary; although this perhaps reflects issues of inclusivity in the way gender is discussed and coded in the different EDs. The mean age of people presenting was 32.37 years (*SD* = 15.09).

Table 1. Characteristics of sample presenting to the six EDs examined for suicidal crisis.

Characteristic	**N (%)**
Sex	
Male	6,900 (44.8)
Female	8,492 (55.1)
Non-Binary	10 (0.1)
Not Known	9 (0.1)
Age (Years)	
<16	1,244 (8.1%)
≥16-25	5,172 (33.6%)
≥26-35	3,580 (23.2%)
≥36-45	2,265 (14.7%)
≥46-55	1,831 (11.9%)
≥56-65	883 (5.7%)
≥66	436 (2.8%)
Ethnicity[1]	
Asian or Asian British	66 (0.4%)
Black or Black British	80 (0.5%)
Mixed	105 (0.7%)
Not Known	157 (1.0%)
Not Specified	339 (2.2%)
NULL	104 (0.7%)
Other	149 (1.0%)
White or White British	14,411 (93.5%)

Footnote[1]: Variables were presented as they were received from each ED. Ethnicity was specified within the participating EDs as displayed above.

The following section presents both quantitative and qualitative findings. The current coding practices for suicidal crisis are presented using quantitative data and are presented in Table 2. The factors that contribute to patients receiving the incorrect or no code are then discussed using the qualitative findings.

Across the participating six EDs, the common primary diagnosis codes include ‘other’ which was used for 40.3% of suicidal crisis attendances, ‘depressive disorder’ (21.8%), ‘suicidal’ (12.4%), and ‘self-harm’ (7.4%). ‘Laceration’ was used less frequently across the sites, accounting for 1.3% of attendances (see Table 2 for further information).

1. *Suicidal Crisis Coded as ‘Anxiety Disorder’ and ‘Depressive Disorder’.*

Across all the six EDs examined, 581 suicidal crisis attendances were coded as ‘anxiety disorder’ (3.8%) and 3,358 as ‘depressive disorder’ (21.8%). The primary diagnosis code ‘anxiety disorder’ was used less across all EDs, ranging from 1.3% of suicidal crisis attendances in ED2 to 8.6% in ED6. The ‘depressive disorder’ primary diagnosis code was used most frequently from 15.7% of attendances in ED1 to 38.5% in ED6.

Interviews with ED staff elaborated on some of the reasons behind why the primary diagnosis codes of ‘anxiety disorder’ and ‘depressive disorder’ are consistently being used across sites in relation to suicidal presentations.

> “We're limited with the coding that we can have. So, I think there's this depressive disorder, anxiety disorder, psychotic disorder, and then a couple of others. Now, what you can do is, code formally the depressive disorder, but then in the actual discharge letter, you can then put ‘with suicidal ideation’.” (02: Consultant in Emergency Medicine).

This quotation illustrates the way codes can conceal the complexity of the real nature of the presentation. Further to this, staff discussed how suicidal thoughts may be viewed as a symptom and, due to the medical approach adopted by ED staff, the mental health difficulty is pathologised, resulting in inaccurate coding for suicidal crisis:

> “It's also a thing of we pathologise everything. And I'm just wondering whether we don’t actually pathologise suicidal crisis because it's more of a behaviour and symptom. So, we pathologise the mental disorder first and code as depression.” (05: Advanced Nurse Practitioner).

This illustrates the conceptual issue that patients’ psychiatric diagnoses are assumed to represent causal entities i.e. that 'the depression' or 'the 'anxiety' causes other things which may include self-harm or suicidal thoughts.

2. *‘No Abnormality Detected’*

The primary diagnosis code of ‘no abnormality detected’ was used across all EDs, with 23.6% of all suicidal crisis attendances receiving the code (0.2% in ED1 to 13.2% in ED6). It is possible that the use of ‘no abnormality detected’ is related to systematic differences and the sharing of an approach amongst one staffing group within certain EDs. Although uncommon within ED1, medical staff within ED6 discussed using ‘no abnormality detected’ in relation to suicidal crisis attendances frequently.

In interviews, 12/23 staff reported that they use the code ‘no abnormality detected’ in relation to suicidal presentations. Staff discussed the reasons for this in relation to the absence of an appropriate or relevant suicidal crisis code, leaving staff with no other option:

> “We would usually just put ‘no abnormality detected’ or just leave the code blank and not put anything. There isn't another way for us to go about or code suicidal crisis.” (06: Triage Nurse).

Staff considered other coding options and noted the difficulty of recording suicidal crisis due to the person presenting with no physical injuries.

> “I don't think you can code self-harm; you can put like ‘laceration’. Most of the time what you end up doing is putting ‘no abnormality detected’, and then just writing what's happened, which means it just gets coded as no abnormality.” (15: ED Doctor).

These quotations where staff use language including ‘just put’ or ‘end up’ encapsulates the problem which seems to indicate that the coding options currently available to staff are unsatisfactory and that much time is spent deliberating over the ‘least worst’ coding option.

3. *Other Physical Injury Codes for Suicidal Behaviours*

Across all EDs the use of ‘other physical injury’ primary diagnosis codes was common. Such codes included ‘head injury’ and ‘wound forearm’. The use of other physical injury codes was used from 29.8% in ED1 to 55.2% in EDs 4 and 5.

When asked to elaborate on the use of physical injury codes for suicide-related presentations, staff often discussed this in relation to self-harm. Staff considered the medical treatment aspect of the attendance and often coded according to the physical injury at hand. For example, “we would tend to just put ‘laceration’ for self-harm presentations” (014: ED Receptionist).

Further, staff often considered the implications of using physical injury codes for suicidal crisis presentations. It was noted that the inaccurate coding practices for suicide-related presentations result in the underestimation of such presentations: "…underestimates mental health attendances by about 40-50%..." (02: Consultant in Emergency Medicine).

4. *Issues Related to Missing Data*

Across all six EDs, the primary diagnosis code was left blank on 18.4% of occasions. Missing data was highest at ED1, equating to 13.6% of presentations. ED6 reported the lowest level of missing data, with no code entered onto the system on one occasion during the study period (0.2%).

During the interviews, staff often noted the contextual factors that impede accuracy, resulting in a high level of missing data. In the fast-paced environment, ED staff faced pressures that impacted on their ability to accurately code presentations and their decision-making practices. Limited time, competing demands and inadequate training in suicide documentation often resulted in staff leaving the code blank:

> "Coding depends upon the time constraint, time to triage, staff often don't have time to complete the administrative tasks due to the volume of presentations". (09: Consultant in Emergency Medicine).

Missing data was also discussed by staff in relation to the new electronic patient record system. Staff noted difficulties adapting to a new system, describing it as "not very user friendly" (04: ED Doctor). Multiple staff commented on the issues of having two separate NHS Trusts (general hospital and mental health trust), with these systems not communicating with each other well:

> "Well, there's not only multiple systems being used across the country, you know, IT systems, but also different ones within the same hospital. The fact that IT systems still don't speak to each other, the fact that the sharing of information is so sporadic, the fact that triage will code it on one system, and then the mental health team will use another." (11: Consultant in Emergency Medicine).

Staff expressed a need for having a clear system, with prompts to put in codes and diagnoses. The value of having ongoing and up-to-date training in relation to coding and hospital electronic systems was also noted by the majority of staff:

“The new system is just really difficult to use and maybe that's something to improve is actually make the systems talk to us a bit better about diagnosis and coding. It's kind of tucked away somewhere., so it would be good to have some sort of prompt to help us.” (05: Advanced Nurse Practitioner).

Table 2. Initial Complaints by Patients and How They Were Coded at Each Emergency Department.

ED Site	**Initial Complaint Descriptor**	**Primary Diagnosis Code N (%)**								
		ANXIETY DISORDER	**DEPRESSIVE DISODER**	**LACERATION**	**LEFT BEFORE ASSESSMENT**	**NO ABNORMALITY DETECTED**	**SELF-HARM**	**SUICIDAL**	**NO CODE ENTERED INTO SYSTEM**	**OTHER**
ED 1 (N=6,769)	“Self-Injurious Behaviour”; “Suicidal”	267 (3.9%)	1,063 (15.7%)	40 (0.6%)	-	15 (0.2%)	526 (7.8%)	1,916 (28.3%)	922 (13.6%)	2,020 (29.8%)
ED 2 (N=3,716)	“Self-Harm”; “Suicidal Thoughts”	48 (1.3%)	613 (16.5%)	-	11 (0.3%)	15 (0.4%)	613 (16.5%)	-	416 (4.2%)	2,000 (53.8%)
ED 3 (N=607)	“Deliberate Self-Harm”	17 (2.8%)	100 (16.5%)	160 (24.6%)	-	42 (6.9%)	4 (0.7%)	-	1 (0.2%)	283 (46.6%)
ED 4 and 5 (N=2,010)	“Self-Injurious Behaviour”;	50 (2.5%)	692 (34.4%)	-	151 (7.5%)	59 (2.9%)	-	-	8 (0.4%)	1,109 (55.2%)

	“Suicidal”; “Suicide Attempt”									
ED 6 (N=2,309)	“Suicidal Thoughts”	199 (8.6%)	890 (38.5%)	-	111 (4.8%)	304 (13.2%)	-	-	-	805 (34.9%)

Discussion

Summary of Main Findings

Inaccurate and inconsistent coding of suicidal crisis attendances was evident both within and between ED sites. A large proportion of suicidal crisis presentations were coded as ‘depressive disorder’, ‘anxiety disorder’, ‘no abnormality detected’ or left blank. The factors that contribute to people receiving the incorrect or no code was further explored in interviews with ED staff. Staff discussed the impact of contextual factors, such as lack of time and competing demands, which resulted in codes being left blank. Hospital electronic coding systems were described as “difficult to use” and staff reported how they would benefit from ongoing and up-to-date training on suicidal crisis coding practices and hospital systems.

The current study provides novel insights into suicidal crisis ED coding practices by utilising a large sample, collating data across multiple UK NHS Foundation Trusts, and using a mixed-methods approach. To date, only one study has previously looked at ED suicidal crisis coding in the UK, and this only focused on children and young people. Ashworth et al. (2022) extracted patient data across 240 clinical records at one ED and reported ‘social/social problems’ to be the most commonly used code (38%) for suicidal crisis; similarly noting inconsistent and inaccurate reporting of suicidal crisis attendances. Poor ED coding practices hinder the ability to accurately identify individuals at risk (McCarthy et al. 2021); thus, the present results suggest people are not receiving appropriate follow-up care. This can have significant implications for patient treatment and support, such as ensuring people receive a psychosocial assessment. For example, when the Mental Health Triage scale was implemented in Irish EDs, the triage categories assigned for self-harm presentations was significantly safer than when the scale was not used (Tanner, Cassidy & Sullivan, 2014); highlighting the positive implications accurate identification can have on patient safety and care. Due to the novelty of the current study and limited research in this area, future research explicitly examining coding practices across EDs in the United Kingdom is needed to get a better picture of coding practice at a national level.

Given the coding issues and variation identified across multiple ED sites in the current study, it is vital that the findings are used to inform more consistent practices (i.e., training and clear guidelines) to help ensure that individuals are receiving the care that they need, and that appropriate care is available. Implementing a standardised code for suicidal crisis is urgently needed to ensure accurate and timely data collection. This could be achieved by piloting a new ‘suicidal crisis’ code within a small number of EDs to ensure the code is being implemented appropriately. It would also be beneficial to develop clear and standardised coding guidelines to support staff responsible for coding presentations and ensure regular and up-to-date training is available. Improved detection and recording of suicidal crises can then lead to more effective resource allocation to provide better access to mental health support.

The inaccurate coding practices for suicide-related presentations identified in the present study are consistent with studies conducted in America (Randall et al. 2017) and Australia (Sveticic, Stapelberg & Turner, 2020; Howell, Wills & Johnston, 2013). Research on ED coding practices for suicidal crisis presentations is scarce and has not been systemically examined in the UK previously for adult presentations. Furthermore, previous research has failed to investigate decision-making from the perspective of relevant staff across multiple hospitals, providing crucial insights into *why* coding practices are inconsistent. Providing focused coding training for administrative, medical and mental health staff that is supported by ongoing clinical supervision would ensure consistency and improved accuracy leading to better data quality. EDs would also benefit from a continuous feedback loop that integrates research and practice. Collaborative work with academics, researchers, ED staff, patients and wider stakeholders would help identify issues with coding, address them promptly and facilitate ongoing training and process enhancements.

A unique component of the current study was the inclusion of qualitative interviews to further explore the reasons for inaccurate suicidal crisis coding among ED staff, an issue which has received limited attention within the current evidence base. The language used by participants (i.e., *"just put"*) reveals the subjective experience of dealing with a less than fit for purpose system. In combination with this, it is important to recognise the additional time pressures and resource limitations staff face, which impact on coding practices. For example, Downey and Zun (2007) reported that the high number of presentations coupled with the need to meet certain ED targets impacted the provision of timely and high-quality patient care. This information can help to inform the implementation of efficient, clinically relevant and user-friendly electronic health record systems that facilitate accurate and complete documentation of patient encounters.

Strengths and Limitations

To our knowledge, this is the first study to examine adult suicidal crisis coding practices across multiple UK NHS Foundation Trusts, using a mixed-methods approach. A major strength is the inclusion of six EDs, given the majority of past work has been limited to one ED site. The inclusion of the qualitative interviews also provides unique insights into the reasoning behind inaccurate and inconsistent coding, which is further strengthened by the recruitment of a wide range of staff, including administrative, medical, and mental health staff, some of whom have been excluded from past studies.

One limitation of this study is the use of hospital-based records as the data source, which, as our study suggests, may be inaccurate. Indeed, despite using a wide range of chief complaint search terms, it is likely the true number of presentations is underestimated in our dataset. Previous research has highlighted methodological limitations in the use of hospital electronic records, including variations in accuracy resulting in suicide-related presentations being missing and underestimated (McCarthy et al. 2021; Stanley et al. 2017). Furthermore, although the transcripts and qualitative themes were discussed with all authors, only the primary author was responsible for the coding of transcripts, which may limit the rigour of the findings (Lincoln & Guba, 2011).

Conclusion

The current study provides novel insights into current suicidal crisis coding practices across multiple UK EDs and is the first study to examine *why* patient coding is inaccurate and variable. Improving the recording of suicidal crisis would enable better use of routinely collected data for research of suicidal crisis, whether as the dependent or independent variable (McGuckin et al. 2022). Currently, there is no evidence-based clinical guidelines for suicidal crisis ED presentations, as there are for self-harm.[7] It is important to prioritise training and education for all healthcare professionals to improve confidence and knowledge of not only suicidal crisis care, but also how to record such presentations on hospital systems. By implementing a standardised code for suicidal crisis within EDs, NHS coding systems and data recording can be improved, leading to better accuracy, decision-making, research, and resource allocation.

Author Statements

Declaration of Interest

None

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Supplementary Materials

Supplementary Box 1. Example Search Strategy Used by ED 1.

```
WHERE [ED].[ArrivalDateTime] >= '2019-01-01'
  AND [ED].[ArrivalDateTime] < '2022-01-01'
  AND ([ECDSCC].[PreferredTerm] Like '%Suicidal%'
  OR [ECDSCC].[PreferredTerm] Like '%Self-injurious behaviour%'
  OR [ED].[PrimaryDiagnosisSNOMEDDesc] Like '%Suicidal%'
  OR [ED].[PrimaryDiagnosisSNOMEDDesc] Like '%Suicide%'
  OR [ED].[PrimaryDiagnosisSNOMEDDesc] Like '%Overdose%'
  OR [ED].[PrimaryDiagnosisSNOMEDDesc] Like '%Self harm%'
  OR [ED].[PrimaryDiagnosisSNOMEDDesc] Like '%Self-harm%')
```

Note that the [ECDSCC].[PreferredTerm] refers to the ECDS Chief Complaint

Supplementary Table 1. Comparison of Available Variables Across Participating EDs.

Site	**ED1**	**ED2**	**ED3**	**ED4**	**ED5**	**ED6**
Age	**X**	**X**	**X**	**X**	**X**	**X**
Sex	**X**	**X**	**X**	**X**	**X**	**X**
Ethnicity	**X**	**X**	**X**	**X**	**X**	**X**
Partial Postcode	**X**	**X**	**X**			
Marital Status	**X**	**X**	**X**			
Attendance Source (e.g., self/family, police)	**X**	**X**	**X**			**X**
Arrival Mode (e.g., walk, ambulance)	**X**	**X**	**X**			**X**
Number of Previous Attendances			**X**			
Under the Influence		**X**				
Arrival Date, Time, Day	**X**	**X**	**X**	**X**	**X**	**X**
Arrival Time to Triage	**X**	**X**	**X**			**X**

Triage Time to Treatment	**X**	**X**	**X**			**X**
Presenting Complaint	**X**			**X**	**X**	**X**
Chief Complaint	**X**	**X**	**X**	**X**	**X**	**X**
Primary Diagnosis Code	**X**	**X**	**X**	**X**	**X**	**X**
Secondary Diagnosis Code		**X**				
Diagnosis Description			**X**			
Investigation Description	**X**	**X**	**X**			**X**
Treatment Description	**X**	**X**	**X**			
What Caused The Injury?		**X**				
How Did The Injury Happen?		**X**				
Referral to Liaison Psychiatry		**X**				**X**
Admitted		**X**	**X**			
Inpatient Diagnosis		**X**				

Outcome / Departure Method (e.g., left before treatment, GP referral)	**X**		**X**	**X**	**X**	**X**
Departure Date, Time			**X**	**X**	**X**	
Time in Department			**X**			

Supplementary Table 2. Interview Schedule Topics and Example Questions.

Topic	Example Question
Job Role	Can you tell me about your role in regard to individuals who are attending EDs in suicidal crisis and/or following self-harm?
Attitudes	Can you tell me your views towards patients who attend EDs in suicidal crisis or following self-harm?
Training	Can you tell me about whether you think ED staff are adequately prepared to support patients attending in suicidal crisis?
Decision-Making Factors	Can you tell me about the decisions that you make when managing patients in suicidal crisis and self-harm? What factors influence your decisions?
Hospital Environment	From your perspective, are A&E sites the best place to resolve suicidal crisis?
Coding Practices	Can you tell me about the current coding practices for suicidal crisis and self-harm? What works well and any problems that you have noticed?
Improvements	From your experience, can anything else be done or put in place to better support staff involved in the treatment and management of patients in suicidal crisis and self-harm?

Chapter 8: Socioeconomic Predictors of Crisis and Clinical Pathways Among People Contacting a Mental Health Crisis Line.

Throughout the research for this thesis, the COVID-19 pandemic not only had an impact on the methodology used and how the research was conducted, but also on how ED services were run. The COVID-19 restrictions meant that people were isolating, limiting social contact, and being deterred from emergency services. The pandemic, thus, had notable impacts on mental health as well as increased pressure on EDs, as existing staffing pressures and resources were exacerbated. Within the Merseyside and Cheshire regions, crisis line services were introduced in response to the pandemic ahead of the intended schedule; the aim being to provide an over the phone, confidential service to support EDs and reduce the number of presentations. The current study was therefore added into the PhD to reflect and acknowledge the potential impact of this additional service on suicidal crisis and EDs. In short, the PhD thesis pivoted in line with the way suicidal crisis support pivoted during the pandemic. Thus, the chapter was still able to examine suicidal crisis emergency coding, care pathways, and decision-making, but in a non-face-to-face setting.

Note: This paper has been published as detailed below. Therefore, this chapter is formatted in line with the formatting requirements of the journal in which it has been published.

McCarthy, M., McIntyre, J., Nathan, R., Ashworth E., & Saini, P. (2023). Socioeconomic Predictors of Crisis and Clinical Pathways Among People Contacting a Mental Health Crisis Line. *Health Services Insights.* https://doi.org/10.1177/11786329231212120

Abstract

Objective: Crisis lines are the first mental health service contact point for many people, making them a vital community and public health intervention. Given the current and potential utility of crisis lines, better understanding the characteristics, socioeconomic factors and subsequent referral pathways of callers is critical to identifying targeted ways to improve such services.

Study Design: The dataset captured calls to the Cheshire & Wirral Partnership NHS Foundation Trust (CWP) crisis line between August 2020 and August 2021. Calls were examined if self-harm, risk to self, or overdose were reported by the caller. Descriptive analyses were conducted to produce a clinical and demographic profile of the callers using the crisis line.

Results: Call handlers were significantly more likely to call 999, hand over to a practitioner and less likely to provide advice and guidance if self-harm, risk to self or overdose was reported. Social issues were found to be significantly associated with all three outcomes: self-harm, risk to self and overdose.

Conclusion: The current study provides the first exploratory analysis of the socioeconomic factors and resultant care pathways for those contacting a UK crisis line service. The findings have important implications for community early intervention efforts to reduce self-harm and suicidal behaviours.

Introduction

Suicide remains a worldwide public health concern, with 5,583 registered deaths by suicide in 2021 across England and Wales.[1] Suicidal thoughts and self-harm are associated with greater distress and are strong risk factors for death by suicide; indeed, individuals in crisis often need rapid care to minimise potential harm.[2] Crisis lines are increasingly being implemented as a standard component of a public health approach to suicide prevention.[3,4] Accessible and effective care is imperative, yet no organised or integrated system for crisis care exists in the United Kingdom.[5,6]

Current theories of suicidal thoughts and behaviours recognise the complex interplay of biological, psychological, environmental and cultural factors related to suicidality, which is best framed by the Integrated Motivational-Volitional (IMV) Model.[7] The IMV model includes three phases: pre-motivational, motivational and volitional. In brief, the pre-motivational phase describes background context, including socioeconomic and social factors, in which suicidal ideation may develop and self-harm behaviours might occur.[8] These factors may also make some people more or less likely to contact a crisis line service, but currently, there is no work exploring this, particularly in a UK setting.

Many people experiencing suicidal crisis, however, do not seek help from face-to-face healthcare services.[9,10] Lack of help-seeking does not appear to be linked to lack of services or resources; rather, stigma and perceptions of self-harm (e.g., being labelled as an "attention seeker").[9,11] In other words, social and environmental factors may play a role. Crisis lines provide a confidential over-the-phone service that could assist in removing the barrier of stigma that could be preventing individuals from seeking support from services.

Evaluation of the efficacy of crisis lines, however, is challenging due to anonymity and related follow-up issues.[12] In response to this obstacle, researchers have evaluated effectiveness in a number of ways. Some research across America has focused on caller follow-up with mental health services, identifying that approximately 50% of callers followed through with seeking support from mental health services after a referral.[13] Conversely, other research has focused on safety outcomes as an indicator of effectiveness. For instance, Gould et al.[14] reported significant decreases in suicidality of callers during the course of the telephone conversation and continued decreases in hopelessness and psychological pain in the following weeks.

Furthermore, a recent systematic review conducted by Hoffberg and colleagues[4] examined the effectiveness of crisis line services across 33 studies. Positive effects of crisis lines were reported for both short-term and immediate outcomes (e.g., changes in distress over the course of the call). However, the study concluded that high-quality long-term evidence demonstrating the effectiveness of crisis lines is lacking.[4] Also evident from the review was the overall lack of research into crisis lines within a UK National Health Service setting; a lacuna of previous research we aim to address in the current study.

The COVID-19 pandemic added additional pressures to existing services to support mental health during lockdowns. There was an overall reduction in services (including a lack of face-to-face support), and isolation and loneliness were most often reported by people attending EDs following self-harm during lockdown.[15] The effects of COVID are also longstanding with increases in anxiety, depression, suicidal ideation and sleep disorders.[15] As a result, crisis phonelines reported an increase in usage, with the charity ‘Mind’ indicating that the number of calls to their service doubled since the beginning of the first national lockdown.[16] Analysis of national phone services in Austria and Germany during the pandemic also noted similar findings.[17] The researchers reported an increase in calls at the same time government restrictions were imposed and, critically, a decrease in calls once restrictions were eased (i.e., reopening of services, social contact allowed). However, while some evidence indicates an increase in demand on crisis team services generally since the COVID-19 pandemic, exploration into crisis line services within the UK has been limited.

Cheshire & Wirral Partnership NHS Foundation Trust Crisis Line

Launched in March 2020 as a key part of the Trust’s Crisis Response Service, Cheshire and Wirral Partnership NHS Foundation Trust (CWP) introduced a free telephone service providing urgent mental health support to individuals of any age in self-defined crisis. Proactively supporting suicide prevention across the region is a key motive of the service.

CWP’s crisis line is staffed by Registered Mental Health Nurses (RMNs) and Allied Health Professionals (e.g., Occupational Therapists). Call handlers listen to the callers’ concerns, proactively explore risk, and seek to collaboratively develop a plan to support the person in need, triaging them for accessible and appropriate support. Call handlers utilise an online biopsychosocial screening form to document each call.

In response to the COVID-19 pandemic, the national mandate accelerated the development and launch of these lines 12 months ahead of the planned schedule. This was done to support and address the anticipated impact upon mental health, ensure parity to the physical health response and essentially to divert service users requiring mental health support away from EDs.

Aims of Current Study

Given the key role of crisis lines within a comprehensive public health strategy for suicide prevention, it is critical to better understand crisis line usage and develop a deeper understanding of the socioeconomic characteristics and triage outcomes of callers, in order to help inform service development. While anecdotal evidence indicates an increase in demand for crisis team services since the COVID-19 pandemic, no formal analysis has been conducted into the efficacy of UK crisis lines during the pandemic period. In order to address this, calls to the CWP crisis line for individuals who stated the issue to be self-harm, risk to self, or overdose were examined. The research questions were: what are the referral pathways for people calling the CWP crisis line for self-harm, risk to self, and/or overdose; and what socioeconomic factors are reported by those calling the CWP crisis line for self-harm, risk to self, and/or overdose?

Method

Study Design and Participants

Quantitative data for individuals who contacted the CWP Crisis Line between August 2020 and August 2021 were included in this analysis. Callers included children, young people, and adults. Within the Cheshire and Merseyside region, additional crisis line services exist specifically for either children and young people or adults. The CWP service, however, accepts calls from both children and young people, as well as adult callers. For the purpose of the current study, all calls where self-harm, risk to self, or overdose was recorded by the call handler were analysed.

The dataset only captured entries made in clinical records. This required the calls to have been answered and a biopsychosocial screening form to have been completed by the call handler. Ethical approval was granted by NHS Health Research Authority, Integrated Research Application System (IRAS: 298407).

Procedure

Data was collated and organised by administrators within CWP and sent to the research team in a password-protected file. Data received from the Trust were anonymised and non-identifiable. Table 1 shows the data available from CWP. Certain variables were pregrouped by CWP, for example age was grouped from 0-18 years, 19-25 years, etc. No further information was available regarding the specific ages of callers. For the purpose of this paper, we have renamed the variable '≤18 years'.

Table 1. Data extracted from CWP crisis line.

Variable	Description
Call Information	Call volume, call source and call time.
Demographic Characteristics	Age, gender, clinical commissioning group (CCG) borough, ethnicity.
Service User Characteristics	Known, unknown and frequent callers.
Clinical Concerns	Nature of calls, key themes, COVID-19 related calls.
Caller Journey	Destination following contact, repeat presentation to crisis line or other crisis service, single presentations/resolution of concerns.
Serious Incidents	Incidents of self-harm or death by suicide following contact with crisis line.
Impact on Wider Services	Liaison mental health services, police, ambulance, third sector.

Data Analysis and Preliminary Data

Quantitative data analysis was conducted using Statistical Package for Social Sciences (SPSS) software V27. Descriptive analyses were conducted to produce a clinical and demographic profile of the callers using the crisis line. Chi-squared analyses were conducted to examine the association between self-harm, risk to self, overdose and call handler triage outcomes. Further chi-squared analyses were conducted to explore the association between various socioeconomic factors and the outcomes of self-harm, risk to self, and overdose.

Results

Descriptive Analysis

There were 25,106 calls recorded between August 2020 to August 2021. Risk to self was noted as the reason for calling for 10.2% of calls (N=2,561). Self-harm made up 7.9% of calls (N=1,983) and overdose was recorded for 435 callers (1.7%). The additional 20,127 calls related to other reasons such as 'mood', 'problems with thoughts', 'relationship' and 'physical health'. For the purpose of this paper, only calls where risk to self, self-harm and/or overdose were included (N=4,979). The majority of calls handled by CWP Crisis Line were from women (57.0%), whilst very few callers reported being non-binary (0.1%). The highest proportion of calls were from people aged 50 – 59 years (23.3%), followed by people aged 0 – 18 years (15.9%). The overwhelming majority of calls were from people who indicated they were from white British ethnic backgrounds (74%). Of the 25,106 calls made to the crisis line, only 392 (0.2%) were from people from ethnic minority backgrounds; although, there was a very high level of missing data for the ethnicity variable (20.0%).

Self-Harm and Call Handler Triage Outcome

Pearson's Chi-squared analyses were conducted to examine the association between reported self-harm by callers and call handler triage outcomes. Specifically, the chi-squared assessed the proportion of people who comprised a particular category (e.g., "999 called") compared to the proportion of people who would be expected to be in that category if triage outcome was unrelated to self-harm status.

As shown in Table 2, Pearson's Chi-squared analysis showed that call handlers were significantly more likely to personally call 999 ($\chi^2 = 339.10$) and significantly less likely to give advice or guidance when self-harm was reported ($\chi^2 = 454.16$). Call handlers were also significantly more likely to hand the caller over to a practitioner if self-harm was reported ($\chi^2 = 47.88$), compared to if no self-harm was reported by the caller.

Table 2. *Pearson's Chi-squared analyses of association between reported self-harm and call handler triage outcome (N=25,106 calls).* Percentages indicate percentage of callers within each self-harm category.

Triage Outcome	Self-Harm Number of Calls (%).	No Self-Harm Number of Calls (%).	χ^2 (1 df)	*p*
Handler Called 999	150 (7.6)	353 (1.5)	339.10	<.001**
Advice/Guidance Only	820 (41.4)	15,114 (65.4)	454.16	<.001**
Advised to call 999	37 (1.9)	360 (1.6)	1.12	.290
Advised to call 111	21 (1.1)	119 (0.9)	0.83	.363
Advised to Contact GP	62 (3.1)	745 (3.2)	0.14	.933
Handed Over to Practitioner	257 (13.0)	1,939 (8.4)	47.88	<.001**
Known Patient Handed Over to Current Team	48 (2.4)	507 (2.2)	0.44	.508
Signposted to emergency department (ED)	41 (2.1)	376 (1.6)	2.18	.140
Signposted to Children and	14 (0.7)	130 (0.6)	0.66	.416

Young People's service (CYP)				
Signposted to Single Point of Access	7 (0.4)	62 (0.3)	0.48	.488
Signposted to Third Sector Organisation	23 (1.2)	216 (0.9)	0.99	.320
Referred to Adult Mental Health Team	9 (0.5)	77 (0.3)	0.78	.377
Referred to Children and Young People's service (CYP)	14 (0.7)	133 (0.6)	0.54	.464
Referred to Home Treatment Teams (HTT)	21 (1.1)	198 (0.9)	0.87	.352
Referred to Improving Access to Psychological Therapies (IAPT) Services as New Referral	4 (0.2)	45 (0.2)	0.01	.945
Referred to Older Adult Mental Health Team	2 (0.1)	13 (0.1)	0.61	.435

Referred to Single Point of Access	9 (0.5)	84 (0.4)	0.41	.524

Risk to Self and Call Handler Triage Outcome

Table 3 presents findings from a Pearson’s Chi-squared analysis examining the association between reported risk to self and call hander triage outcome. Call handlers were significantly more likely to call 999 if the caller reported risk to self ($\chi^2 = 615.37$) and significantly less likely to provide advice and guidance ($\chi^2 = 946.40$). Callers were also significantly more likely to be advised to call 999 ($\chi^2 = 11.75$), 111 ($\chi^2 = 4.57$) or contact their GP ($\chi^2 = 7.30$) if risk to self was reported. Call handlers were significantly less likely to hand the caller over to a practitioner if risk to self was not reported ($\chi^2 = 157.42$). Known callers were significantly more likely to be handed over to their current team if risk to self was reported ($\chi^2 = 11.0$). Callers reporting risk to self were also significantly more likely to be signposted to ED ($\chi^2 = 12.26$), signposted to third sector organisations ($\chi^2 = 5.20$) and to be referred to home treatment teams ($\chi^2 = 4.69$), compared with callers not reporting risk to self.

Table 3. *Pearson's Chi-squared analyses of association between reported risk to self and call handler triage outcome (N=25,106 calls).* Percentages indicate percentage of callers within each risk to self category.

Triage Outcome	Risk to Self Number of Calls (%).	No Risk to Self Number of Calls (%).	χ^2 (1 df)	*p*
Handler Called 999	218 (8.5)	285 (1.3)	615.37	<.001**
Advice/Guidance Only	915 (35.7)	15,019 (66.6)	946.40	<.001**
Advised to call 999	61 (2.4)	336 (1.5)	11.75	<.001**
Advised to call 111	32 (1.2)	118 (0.8)	4.57	.032*
Advised to Contact GP	105 (4.1)	702 (3.1)	7.30	.026*
Handed Over to Practitioner	394 (15.4)	1,802 (8.0)	157.42	<.001**
Known Patient Handed Over to Current Team	80 (3.1)	475 (2.1)	11.00	<.001**
Signposted to ED	64 (2.5)	353 (1.6)	12.26	<.001**
Signposted to Children and	21 (0.8)	123 (0.5)	3.04	.081

Young People's service (CYP)				
Signposted to Single Point of Access	7 (0.3)	62 (0.3)	0.00	.988
Signposted to Third Sector Organisation	35 (1.4)	204 (0.9)	5.20	.023*
Referred to Adult Mental Health Team	9 (0.4)	77 (0.3)	0.01	.935
Referred to Children and Young People's service (CYP)	22 (0.9)	125 (0.6)	3.67	.056
Referred to Home Treatment Teams (HTT)	32 (1.2)	187 (0.8)	4.69	.030*
Referred to Improving Access to Psychological Therapies (IAPT) Services as New Referral	6 (0.2)	43 (0.2)	0.22	.636
Referred to Older Adult Mental Health Team	2 (0.1)	13 (0.1)	0.16	.688

Referred to Single Point of Access	12 (0.5)	81 (0.4)	0.74	.388

Overdose and Call Handler Triage Outcome

As shown in Table 4, call handlers were significantly more likely to call 999 if the caller reported an overdose ($\chi^2 = 1246.59$) and significantly less likely to provide only advice and guidance ($\chi^2 = 338.19$), compared to if callers did not report overdose. Callers reporting an overdose were also significantly more likely to be advised to call 999 ($\chi^2 = 80.36$), 111 ($\chi^2 = 46.84$) or contact their GP($\chi^2 = 39.86$). If overdose was not reported by the caller, caller handlers were significantly less likely to hand over to a practitioner ($\chi^2 = 64.61$). However, if overdose was reported, call handlers were significantly more likely to signpost the individual to services such as EDs ($\chi^2 = 74.29$), CYP services ($\chi^2 = 54.30$), single point of access ($\chi^2 = 12.35$) and third sector organisations ($\chi^2 = 62.40$). Those contacting CWP crisis line were also significantly more likely to be referred to other additional services, for example adult mental health services ($\chi^2 = 29.04$), CYP ($\chi^2 = 72.74$), home treatment teams ($\chi^2 = 47.18$), IAPT ($\chi^2 = 11.92$) or single point of access ($\chi^2 = 34.61$), if overdose was reported.

Table 4. *Pearson's Chi-squared analyses of association between reported overdose and call handler triage outcome (N=25,106 calls).* Percentages indicate percentage of callers within each overdose category.

Triage Outcome	Overdose Number of Calls (%).	No Overdose Number of Calls (%).	χ^2 (1 df)	*p*
Handler Called 999	111 (25.5)	392 (1.6)	1246.59	<.001**
Advice/Guidance Only	93 (21.4)	15,841 (64.2)	338.19	<.001**
Advised to call 999	30 (6.9)	367 (1.5)	80.36	<.001**
Advised to call 111	17 (3.9)	203 (0.80	46.84	<.001**
Advised to Contact GP	37 (8.5)	770 (3.1)	39.86	<.001**
Handed Over to Practitioner	85 (19.5)	2,111 (8.6)	64.61	<.001**
Known Patient Handed Over to Current Team	33 (7.6)	522 (2.1)	59.17	<.001**
Signposted to ED	30 (6.9)	387 (1.6)	74.29	<.001**
Signposted to Children and	14 (3.2)	130 (0.5)	54.30	<.001**

Young People's service (CYP)				
Signposted to Single Point of Access	5 (1.1)	64 (0.3)	12.35	<.001**
Signposted to Third Sector Organisation	20 (4.6)	219 (0.9)	62.40	<.001**
Referred to Adult Mental Health Team	8 (1.8)	78 (0.3)	29.04	<.001**
Referred to Children and Young People's service (CYP)	16 (3.7)	131 (0.5)	72.74	<.001**
Referred to Home Treatment Teams (HTT)	17 (3.9)	202 (0.8)	47.18	<.001**
Referred to Improving Access to Psychological Therapies (IAPT) Services as New Referral	4 (0.9)	45 (0.2)	11.92	<.001**
Referred to Older Adult Mental Health Team	1 (0.2)	14 (0.1)	2.15	.143

Referred to Single Point of Access	9 (2.1)	84 (0.3)	34.61	<.001**

Socioeconomic Factors and Self-Harm

Pearson’s Chi-squared analysis was then conducted to explore the association between a number of socioeconomic factors and reported self-harm by callers to the CWP crisis line. As shown in Table 5, self-reported social problems were significantly associated with callers reporting self-harm ($\chi^2 = 70.62$).

Table 5. *Pearson's Chi-squared analyses of association between reported self-harm and socioeconomic factors (N=25,106 calls).* Percentages indicate percentage of callers within each self-harm category.

Socioeconomic Factors	Self-Harm Number of Calls (%).	No Self-Harm Number of Calls (%).	χ^2 (1 df)	*p*
Alcohol	102 (5.1)	1,219 (5.3)	0.06	.806
Bereavement	43 (2.2)	426 (1.8)	1.06	.303
COVID-Related	32 (1.6)	297 (1.3)	1.53	.216
Employment	14 (0.7)	128 (0.6)	0.76	.385
Financial	22 (1.1)	202 (0.9)	1.15	.284
Gambling	2 (0.1)	32 (0.1)	0.19	.663
Housing	43 (2.2)	421 (1.8)	1.22	.270
Medication	98 (4.9)	1,137 (4.9)	0.00	.961
Other Social Factors	107 (5.4)	1,276 (5.5)	0.05	.819
Physical Health	108 (5.4)	1,301 (5.6)	0.11	.738
Social	292 (14.7)	2,076 (9.0)	70.62	<.001**
Unemployment	12 (0.6)	91 (0.4)	2.00	.157

*Socio*economic *Factors and Risk to Self*

Table 6 presents findings from a Pearson’s Chi-squared analysis exploring the association between socioeconomic factors and reported risk to self. The majority of socioeconomic factors explored were significantly associated with risk to self. For example, callers to the CWP crisis line indicating issues with alcohol ($\chi^2 = 17.86$), bereavement ($\chi^2 = 15.01$), COVID ($\chi^2 = 6.07$), finances ($\chi^2 = 5.07$), housing ($\chi^2 = 14.59$), medication ($\chi^2 = 13.44$), physical health ($\chi^2 = 20.75$) and social factors ($\chi^2 = 221.17$) were significantly more likely to report risk to self.

Table 6. *Pearson's Chi-squared analyses of association between reported risk to self and socio*economic *factors (N=25,106 calls).* Percentages indicate percentage of callers within each risk to self category.

Socioeconomic Factors	Risk to Self Number of Calls (%).	No Risk to Self Number of Calls (%).	χ^2 (1 df)	*p*
Alcohol	180 (7.0)	1,131 (5.1)	17.86	<.001**
Bereavement	73 (2.9)	396 (1.8)	15.01	<.001**
COVID-Related	47 (1.8)	282 (1.3)	6.07	.014*
Employment	21 (0.8)	121 (0.5)	3.28	.070
Financial	33 (1.3)	191 (0.8)	5.07	.024*
Gambling	3 (0.1)	31 (0.1)	0.07	.791
Housing	72 (2.8)	392 (1.7)	14.59	<.001**
Medication	164 (6.4)	1,071 (4.8)	13.44	<.001**
Other Social Factors	189 (7.4)	1,194 (5.3)	19.19	<.001**
Physical Health	194 (7.6)	1,215 (5.4)	20.75	<.001**
Social	450 (17.6)	1,918 (8.5)	221.17	<.001**
Unemployment	14 (0.5)	89 (0.4)	1.30	.254

Socioeconomic Factors and Overdose

A final Pearson's Chi-squared analysis was conducted to examine the association between reported overdose and socioeconomic factors (Table 7). All socioeconomic factors explored in this analysis were significantly associated with whether the caller reported overdose. Although significant, a weaker association was found between callers reporting issues with gambling and overdose ($\chi^2 = 10.05$).

Table 7. *Pearson's Chi-squared analyses of association between reported overdose and socio*economic *factors (N=25,106 calls).* Percentages indicate percentage of callers within each overdose category.

Socioeconomic Factors	Overdose Number of Calls (%).	No Overdose Number of Calls (%).	χ^2 (1 df)	*p*
Alcohol	62 (14.3)	1,259 (5.1)	71.79	<.001**
Bereavement	33 (7.6)	436 (1.8)	78.96	<.001**
COVID-Related	25 (5.7)	304 (1.2)	67.38	<.001**
Employment	14 (3.2)	128 (0.5)	55.39	<.001**
Financial	18 (4.1)	206 (0.8)	52.74	<.001**
Gambling	3 (0.7)	31 (0.1)	10.05	.002*
Housing	32 (7.4)	431 (1.8)	74.04	<.001**
Medication	59 (13.6)	1,176 (4.8)	70.72	<.001**
Other Social Factors	63 (14.5)	1,320 (5.4)	68.49	<.001**
Physical Health	63 (14.5)	1,346 (5.5)	65.76	<.001**
Social	89 (20.5)	2,279 (9.2)	63.020	<.001**
Unemployment	9 (2.1)	94 (0.4)	29.809	<.001**

Discussion

The current study aimed to examine the sociodemographic predictors and subsequent referral pathways for people calling the CWP crisis line reporting self-harm, risk to self, or overdose. This exploratory study provided detailed information about a population that has been the focus of attention due to concern about a rise in suicide and self-harm before and during the pandemic, and the public health priority given to reduce national suicide rates.

Call Handler Triage Outcomes

Call handlers were significantly more likely to personally call 999 if self-harm, risk to self or overdose was reported by callers. Callers to the CWP crisis line were more likely to be signposted to emergency services if risk to self or overdose was present, while referrals to additional services, such as home treatment teams, were more likely if an overdose was reported.

Prior literature has highlighted how crisis line staff often feel reluctant to probe for suicidal thoughts and/or behaviours during calls.[18] This reluctance has been shown across a range of different mental health professionals due to fear that asking about suicide or self-harm will increase distress,[19]despite this not being the case.[20,21] Indeed, asking questions about self-harm is essential to understand risk and ensure appropriate and effective referrals. Despite suicide prevention being a key focus of the service, the questions included in the biopsychosocial screening form were limited in relation to suicide. Services and future research may benefit from developing specific questions around suicide-related behaviours and thoughts to better understand the complexities and multifaceted nature of suicide, such as intent and frequency of self-harm.

Few studies have examined client referral pathways following contact with crisis line services. One reason for this is due to the anonymity of the service, which limits the ability to follow-up callers after contact.[22] Boness, Helle and Logan[23] examined various aspects of calls to a United States crisis line over a 12-month period, including call length, caller characteristics, and referrals. The authors reported that crisis line staff directed callers to external agencies for services/information not provided by the crisis line centre. Notably, callers may have been provided with multiple referrals on one call. The findings from the current study extend on this work by identifying the specific services callers were referred onto, such as older adult mental health, or CYP services. The current study reported referrals into such services to be more likely when overdose was reported by callers, with home treatment teams being the most common referral pathway.

An interesting finding from this study is the lack of association between reported self-harm by callers and signposting to EDs from the CWP call handlers. Methodologically this may be due to the low base number of self-harm callers who were referred to emergency services. Alternatively, it may reflect that self-harm is able to be managed appropriately in the community, whereas overdose may require medical attention from an ED setting. In support of this, Buykx et al.[24] reported medication overdoses account for over 80% of hospital presentations. Further research is needed to explore the reasons behind these findings.

Socioeconomic Factors

Data were also explored in relation to socioeconomic factors and reported self-harm, risk to self, and overdose for callers of the CWP crisis line. Findings revealed a significant association between social problems and reported self-harm by callers; however, there were no significant associations between self-harm and the other socioeconomic categories. The majority of socio-demographic factors explored were significantly associated with risk to self and overdose. The final analysis revealed that all socio-demographic factors examined were significantly associated with reported overdose by callers. It will be important in future research to explore potential differences in the determinants of self-harm versus other types of risk to self.

Consistent with previous literature and highlighted within the IMV model, a number of socio-demographic factors have regularly been associated with individuals beginning to self-harm. For example, research findings have supported the association between life events such as financial, employment, and housing difficulties and deliberate self-harm.[25,26] Much research has also shown a significant association between issues with alcohol and subsequent self-harming behaviour.[27,28] Developing on previous research, the current study provides convergent evidence that socioeconomic factors, broadly, are key drivers of mental health problems and lead to increased demand for services.

It has been acknowledged in prior research that existing evidence is limited by the narrow focus on certain socioeconomic factors, such as employment and education. It is vital that research considers a range of socioeconomic factors across all domains of the IMV model, to better understand the profile of callers using crisis line services. In particular, a better understanding of the predictors of self-harm related calls is essential to not only develop ways of best responding to these callers and providing appropriate care pathways, but also to inform early intervention efforts to ensure effective support is available in the community to prevent crisis. The current study is an important first step in exploring this by focusing on a range of socioeconomic factors and how instances of self-harm are handled by crisis line services. Future work would benefit from understanding the economic impact of self-harm on crisis line services, as well as the impact of the services on people's mental health after contact. It would also be beneficial for further studies to explore cumulative risk exposure, which accounts for the issue presented in the IMV model that risk factors are likely to occur in isolation, but instead overlap and interact with each other.[29]

Findings from the current study are also particularly relevant to the COVID-19 pandemic. Government responses to the pandemic resulted in restrictions to social activities and gatherings in an attempt to reduce the spread of the virus. Results from the current study indicated a significant association between social issues and reported self-harm, risk to self and overdose. Similar to these findings, research has consistently highlighted a reduction of services (including absence of face-to-face support), isolation and loneliness were reported most frequently by people attending EDs following self-harm during lockdown.[15,30] Findings thus emphasise the importance of social connectivity and interaction to reduce self-harming behaviours and pressure on services.

Strengths and Limitations

This study has several strengths and provides significant contributions to the existing evidence base by helping to better understand the socioeconomic characteristics of and subsequent caller triage outcomes for people contacting crisis line services for self-harm, risk to self or overdose. This information can help to inform early identification strategies to determine who may be at risk of self-harm, as well as ensuring more effective targeting of resources and interventions to those services most commonly referred to. These findings, however, should be considered within the context of some methodological limitations. Firstly, the relatively small sample size of those callers reporting self-harm, risk to self or overdose limits statistical power and so results should be interpreted with caution. The sample is also limited to only those people seeking support from only the CWP crisis line, which may limit generalisability to those utilising other crisis helpline services, and people who do not seek support. Moreover, the overdose measure did not distinguish between accidental and deliberate overdose; thus, not all instances in this category may be deliberate self-harm. Despite these limitations, this exploratory study has provided insight and understanding into this patient group and referral pathways using rarely studied data. It therefore provides a basis for further work in this area, utilising larger samples and multiple NHS Trusts across various regions in the United Kingdom.

Clinical Implications

The current study offers a unique insight into the socioeconomic characteristics and triage outcomes of callers to the CWP crisis line reporting self-harm, risk to self and overdose. Our findings highlight a number of socioeconomic factors to be significantly associated with callers reporting self-harm, risk to self or overdose. A better understanding of the precipitating factors to self-harm calls can inform early identification efforts and ensure effective community prevention strategies. Furthermore, the findings provided an understanding of the caller journey and common referral pathways after contact with CWP crisis line. This can be valuable information for service commissioners and funding efforts to ensure accurate and effective targeting of resources to services commonly used after contact with crisis lines. The evidence arising from this study about the role of different types of socioeconomic factors raises issues for the required competencies of call handlers. Consideration should be given to adapting training for call handlers to facilitate informed supportive discussions with callers about this wide range of contributory factors.

Since the CWP crisis line service was implemented twelve months ahead of schedule in response to the COVID-19 pandemic, important clinical implications can also be gained in terms of developing the data collected from the service. Improving the data routinely collected by call handlers can benefit both services and research into suicide prevention. Mental health crisis coding has been identified as an issue in NHS settings,[31] the current study highlights that more specific codes could be implemented to better understand where callers are being signposted to following contact with the crisis line. More data captured on the context of advice given by call handlers, and further longitudinal data to capture follow-up users of the crisis line would aid a further understanding of what support and signposting services are effective for those reporting self-harm. Services may also benefit from additional questions related to suicide and self-harm since suicide prevention is a key focus of the service. For example, there was no data available related to whether the caller was experiencing suicidal thoughts. Since suicidal ideation is a key risk factor for self-harm and suicidal behaviour,[2] services and research would benefit from better understanding the caller characteristics and referral pathways for those in suicidal crisis.

Conclusion

The current study provides the first exploratory analysis into the socioeconomic factors and caller triage outcomes for those contacting a UK crisis line service reporting self-harm, risk to self or overdose. The findings have important implications for crisis line service delivery and community early intervention efforts to reduce self-harm and suicidal behaviours. Of particular importance, the study identified the services callers are being referred to most frequently, which can have significant implications for commissioning and funding arrangements. However, we do acknowledge the highly exploratory nature of the study and call for similar research to be conducted on a larger and broader scale in order to confirm the results.

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Chapter 9: Discussion

In this final chapter, the results from the five studies presented in this thesis (Chapters 4 to 8) are summarised to demonstrate the overall methodological and practical contributions to knowledge relating to ED coding practices and staff decision-making for people attending in suicidal crisis. A study-specific discussion has already been presented in each study chapter; therefore, this chapter presents an overarching account of the ways in which this thesis addresses existing gaps in the literature, and how the findings from each study relate to one another to make a combined contribution to the evidence base. Strengths and limitations of each individual study have also already been considered in previous chapters; thus, this section focuses on the strengths and limitations of the thesis as a whole. Implications of the findings are acknowledged in relation to clinical practice and ED hospital recording systems. Consideration has been given to ensuring clinical recommendations are appropriate, whilst also recognising the substantial pressures ED staff face. Where the thesis has given rise to new questions, or is limited in its scope or methodology, suggestions for future research are offered, as well as plans for future papers that will utilise the large ED dataset obtained for this thesis. A final concluding section summarises the unique contributions of the thesis.

9.1. Revisiting the Aims

The overall aim of this mixed-methods thesis was to examine ED coding practices and staff decision-making for people attending in suicidal crisis. Five studies were included to address existing gaps in the evidence base. As a reminder the study aims are presented below for each thesis chapter, and the key contributions and implications are summarised in Box 3. Figure 9 then displays the link between chapters.

1. **Chapter 3 – Improve coding practices for people in suicidal crisis (McCarthy et al., 2021).**

This editorial aimed to summarise the key issues facing ED departments in terms of coding practices.

2. **Chapter 4 – Predictors of self-harm and emergency department attendance for self-harm in deprived communities (McCarthy et al., 2023a).**

Utilising cross-sectional survey data, this study aimed to explore the demographic, health and socioeconomic predictors of self-harm and related ED attendances using quantitative methods and inferential statistics in the form of logistic regressions.

3. **Chapter 5 – Factors influencing emergency department staff decision-making for people attending in suicidal crisis: A systematic review (McCarthy et al., 2023b).**

The aim of this systematic review was to examine patient, contextual and staff factors influencing ED decision-making and how these specific factors can affect clinical pathways for people presenting in suicidal crisis. A narrative synthesis was conducted to examine the findings of the included studies.

4. **Chapter 6 – Staff Perspectives of People Attending Emergency Departments in Suicidal Crisis: A Qualitative Study. (McCarthy et al., 2023c).**

This study aimed to explore and synthesise the perspectives of ED administrative, medical and mental health staff working with people presenting in suicidal crisis. Semi-structured interview data were analysed using reflexive thematic analysis.

5. **Chapter 7 – "No Abnormality Detected": A Mixed-Methods Examination of Emergency Department Coding Practices for People in Suicidal Crisis.**

A mixed-methods study was conducted with the aim of examining current suicide-related ED coding practices and identifying the factors that contribute to staff decision-making and patients receiving the incorrect or no code. Descriptive analyses were conducted to examine the quantitative coding data across the six participating EDs. The purpose of the qualitative data was to provide an explanatory role, supporting the quantitative findings.

6. Chapter 8 – Socioeconomic Predictors of Crisis and Clinical Pathways Among People Contacting a Mental Health Crisis Line (McCarthy et al., 2023d).

The aims of this study were to explore the referral pathways for people calling a UK mental health crisis line for self-harm, risk to self and/or overdose and examine the socioeconomic factors reported by those using the service. Descriptive and chi-squared analyses were conducted to produce a clinical and demographic profile of callers.

Box 3. Contributions and Implications of each Chapter.

Chapter 3: Improve Coding Practices for Patients in Suicidal Crisis.

What does this study add? EDs are often the first point of contact for people experiencing suicide-related distress, but while data exists on the number of self-harm presentations, no comparable data exists for suicidal crisis. This paper sets out the aims and challenges of the thesis, presenting the limited research and evidence on ED attendances and the current issues and limits to coding practices for self-harm and suicidal crisis.

Implications: Priorities for action were identified, including the implementation and piloting of a 'suicidal crisis' code within a small number of EDs to ensure search terms and screening procedures are robust.

Future Research: Should seek to understand and examine the current coding practices within EDs for suicidal crisis. As inconsistencies have been highlighted, future research should also look to examine the reasons behind this and what factors influence the coding practices of ED staff. To do this, it would be beneficial to utilise a mixed-methods approach to examine both prevalence and qualitative reasoning. This set the premise for future research within the PhD and was addressed in Chapter 7.

Chapter 4: Predictors of Self-Harm and Emergency Department Attendance for Self-Harm in Deprived Communities.

What does this study add? Previous research into predictors of self-harm and ED attendance for self-harm have produced conflicting findings, often dependent on the country or region the research has been conducted and the measure of SES used. To build upon previous limitations, this study utilised large, community-based survey data, including multiple measures to examine individual and area-level deprivation.

Implications: Findings highlighted important ways in which community interventions and efforts can be improved. In the context of the COVID-19 pandemic, increasing community support and decreasing feelings of loneliness can potentially reduce self-harm and related ED attendances.

Future Research: In response to the COVID-19 pandemic, future research should seek to explore what community services were implemented to address the identified predictors (e.g., loneliness). By doing this, research will be able to see what services people in crisis are using and what reasons are being reported for service contact. This can be beneficial to ensure risk factors and predictors are addressed in the community, to support early intervention strategies and potentially reduce the number of people presenting to EDs. Chapter 8 was conducted to address this.

Chapter 5: Factors Influencing Emergency Department Staff Decision-Making for People in Suicidal Crisis: A Systematic Review.

What does this study add? ED staff play an important role in supporting people presenting in suicidal crisis, yet no research has systematically examined the factors influencing staff decision-making. Previous work tends to focus solely on patient-related factors and tends to be based within psychiatric hospital units, thus, a large cohort of patients was not previously captured.

Implications: Contextual factors, namely service and staff availability, need to be recognised and addressed to target risk averse decision-making. Staff attitudes and confidence have important implications for a patient experience and journey throughout the ED, thus, need to be addressed.

Future Research: More research is needed on staff-based factors (i.e., clinicians' conceptualisations of self-harm and uncertainty management) and contextual factors (the pressure of managing both limited resources whilst not "missing" someone who goes on to seriously harm themselves). To do this, research would benefit from adopting a qualitative approach, since research from the perspective of ED staff is extremely limited. Chapter 6, thus, aims to build upon this.

Chapter 6: Staff Perspectives of Emergency Department Pathways for People in Suicidal Crisis: A Qualitative Study.

What does this study add? Previous research focuses on one staffing role (e.g., triage nurses) whereas this paper includes staff working across the ED pathway. Administrative staff have often been excluded from research, despite representing a key part of the clinical pathway and being a person's initial contact with the ED. Findings build upon previous research to highlight key challenges different staff face along the clinical pathway and the implications this can have on a patient's journey and follow-up care provided.

Implications: Findings are of particular importance and relevance to ED managers, and more broadly NHS England. Negative ED culture, poor staff attitudes and confidence can have a detrimental impact on both staff health and wellbeing, as well as a patient's journey throughout the ED, resulting in repeat presentations and absconding as appropriate support is not received.

Future Research: Should seek to explore and evaluate possible resources and training to better equip *all* ED staff on how to engage with people presenting in suicidal crisis to build staff confidence and potentially address negative attitudes. To do this, a Trust wide survey could be sent to a range of ED staff to first explore staff needs and priorities for training.

Chapter 7: "No Abnormality Detected": A Mixed-Methods Examination of Emergency Department Coding Practices for People in Suicidal Crisis.

What does this study add? Previous research into ED coding practices has been limited in scope, with no research exploring suicidal crisis attendances within the UK. Furthermore, no research has explored the reasons behind inaccurate and inconsistent coding practices; a lacuna we aim to address in the present study using a mixed-methods approach.

Implications: Improved ED coding practices and data accuracy related to suicidal crisis and self-harm could result in considerable benefits for patients, including more effective targeting of resources and interventions.

Future Research: It would be beneficial for future research to seek to explore how hospital systems could be more “user-friendly” to promote more accurate and consistent coding practices. To do this, researchers could qualitatively explore what it is that would make staff workload easier, for example, should new systems include prompts to ensure codes are entered for each presentation.

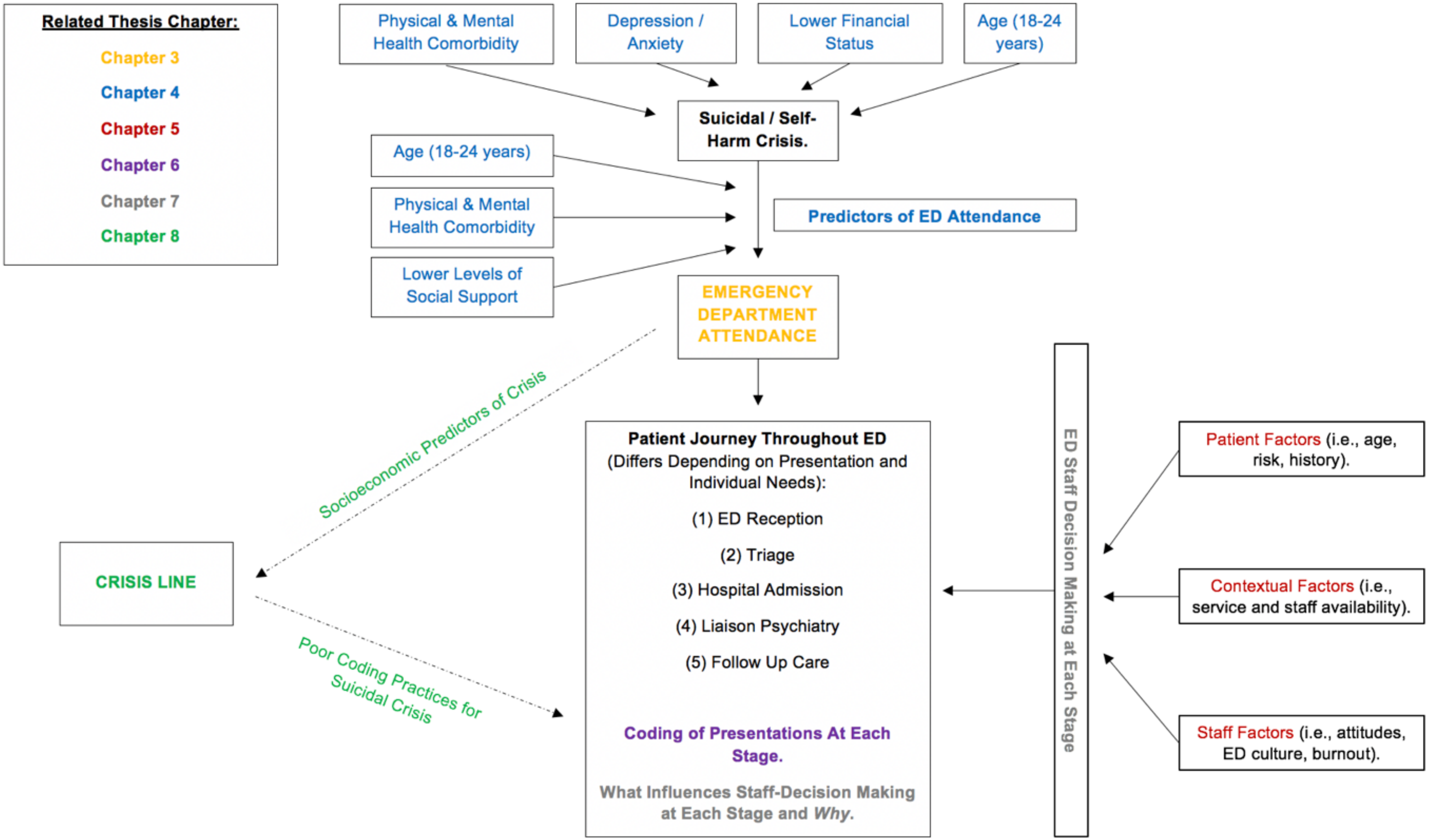
Chapter 8: Socioeconomic Predictors of Crisis and Clinical Pathways Among People Contacting a Mental Health Crisis Line.

What does this study add? To date, no formal analysis has been conducted into the efficacy of UK crisis lines during the pandemic period. There was limited evidence regarding the usage and socioeconomic factors reported by callers, specifically within the UK.

Implications: A better understanding of the precipitating factors to self-harm calls can inform early identification efforts and ensure effective community prevention strategies. Understanding a caller’s journey can provide valuable information for service commissioners and funding efforts to ensure accurate and effective targeting of resources to services commonly used after contact with crisis lines.

Future Research: Improving the data collected from this service can have important implications for future patient care. Introducing data on suicidal ideation can provide better context for the service, thus, research could explore the impact and prevalence of suicidal crisis to crisis line services when this variable is implemented.

Figure 9. Link Between Thesis Chapters.



9.2. Key Findings and Interpretations

The five studies presented in this thesis make significant contributions to the existing evidence base. The thesis adds to the understanding of how suicide-related presentations are recorded within hospital systems, highlighting challenges and inconsistencies in accurate coding practices. It also contributes to the limited research exploring staff decision-making, looking beyond patient-related factors to examine the bigger picture of the ED environment and staff confidence, knowledge, and attitudes. Finally, the thesis contributes to clinical practice and the key areas (i.e., staff burnout, limited resources, poor staff confidence and attitudes) that need to be addressed to improve patient care for those in suicidal crisis.

9.2.1. Predictors and Social Determinants of Suicidal Crisis

After decades of research, our ability to predict suicide remains weak (Alemi et al., 2020), yet common risk factors have been identified which can help suicide prevention strategies and initiatives (see Chapter 1 for further discussion). Self-harm is a known strong risk factor for suicide, and the majority of available research tends to focus solely on self-harm as the outcome measure of suicidal behaviours. Throughout this thesis, it has been argued that those experiencing suicidal crisis should be viewed, supported, and treated as a distinct group, due to the differing needs in terms of ED treatment and follow-up care compared to those engaging in self-harm. However, self-harm was the focus of Chapters 4 and 8 due to the limits to coding and overall acknowledgement of suicidal crisis as a distinct group within the academic literature. Within Chapter 4, the household health community survey that was accessed did not measure other aspects of suicidal distress and only included a single item on self-harm. This was also mirrored in the crisis line data utilised in Chapter 8, with self-harm being the only coded outcome measure available for analysis. Thus, while the findings from these chapters are not specific to patients presenting in suicidal crisis, the use of self-harm as a proxy indicator still provides novel insights into the usage of services for individuals experiencing suicide-related distress.

The combined findings from Chapters 4 and 8 highlight a number of similar predictors, namely low levels of social support, relating to ED attendance (Chapter 4) or contact with crisis lines (Chapter 8). In line with the IMV Model described in Chapter 1 (O’Connor, 2018), thwarted belongingness has previously been shown to be a significant predictor of suicidal ideation and intent (Dienst et al., 2023; Forkmann & Teismann, 2017). As such, those with limited social support networks may be more vulnerable to self-harm and more likely to seek support within EDs (Wu et al., 2011). The findings are also consistent with Mulholland et al. (2021) who found that both younger age and a lack of belonging predicted suicidal ideation in a community sample. Together, the findings highlight the urgent need for post-pandemic interventions, emphasising the importance of fostering supportive communities, increasing access to mental health resources, and promoting public awareness of the potential consequences of social isolation and the value of social connectedness. Addressing this issue within the community can mitigate the strain on EDs, and more importantly, improve the wellbeing of individuals post-pandemic.

Another important contribution of Chapter 4 was its examination of self-harm and related ED attendance within deprived communities, providing support to the Social Determinants of Suicide and Self-Harm Model proposed by Pirkis et al. (2023). The model underscores that societal factors, including socioeconomic disparities and access to support services, play a crucial role in self-harming and suicidal behaviours. In deprived communities, individuals often face higher levels of economic instability, limited access to mental health resources, and increased social isolation; all of which have been shown to relate to higher levels of self-harm and ED attendance (McCarthy et al., 2023a; McCarthy et al., 2023b). Similarly, Chapter 8 reported social issues to be associated with self-harm, risk to self, and overdose calls. This knowledge is instrumental in developing targeted interventions and policies to address health inequalities.

Important to note, however, was that the type of self-harm, in both Chapters 4 and 8, was not explored due to the limits in data collection. Yet, research has consistently highlighted that more lethal means of self-harm are related to an increased likelihood of hospitalisation (Geulayov et al., 2019; McCarthy et al., 2023b); further exploration into this and improving the recording of type of self-harm would thus be beneficial to ensure effective interventions in the community. This would also be valuable at a wider community level given that hospitalisation itself could exacerbate vulnerability through processes involving stress, stigma, and isolation (Jacobs et al., 2010). Furthermore, guidelines and policy documents have also consistently highlighted and pushed for alternative formats of support for people experiencing suicidal crisis. Alongside these documents, a plethora of academic research has discussed the need for alternative forms of support for those in suicidal crisis (e.g., Banfield et al., 2022). At community level, there is a wealth of literature examining ‘safe spaces’ in Australia, with research suggesting they offer an adaptable, responsive, and cost-effective method of supporting people in suicidal crisis (Fitzpatrick et al., 2023; Riley et al., 2020). Similarly, crisis phone lines have been reported to be effective at reducing an individual’s distress and suicidality (e.g., Gould et al., 2007). Taken together, the findings from Chapters 4 and 8 highlight the importance of better and improved data collected for suicidal crisis, as well as what needs to be addressed and implemented at community level for early intervention and prevention.

9.2.2. Improve Coding Practices for Suicidal Crisis Presentations

As highlighted above, data capture for suicidal crisis is extremely poor, resulting in the majority of research focusing on self-harm. The importance of recognising suicidal crisis presentations as a distinct patient group was clear from the outset of the current research, given that ED staff are often well trained and equipped to manage physical and medical-related injuries (e.g., following self-harm), but the needs, required support, and follow-on care of those presenting in suicidal crisis differ from those presenting following self-harm. As discussed in Chapter 3, it was apparent there was a key gap remaining by not examining suicidal crisis presentations specifically.

Issues with the recording of suicide-related ED presentations are well known (Robinson et al., 2020; Witt & Robinson, 2019; Rozova et al., 2022; Sveticic et al., 2020; Ashworth et al., 2022); however, how presentations are recorded and *why* has previously been overlooked. Utilising data across multiple ED sites, Chapter 7 aimed to address this by employing a mixed-methods approach. Findings highlighted the absence of an appropriate suicidal crisis code, resulting in presentations being coded as 'depressive disorder', 'anxiety disorder', 'no abnormality detected', or the code being left blank altogether. Similar to these findings, Sveticic et al. (2020) reported great heterogeneity of ICD-10 diagnostic codes and presenting complaints for suicidal ideation (38 and 24, respectively); noting the difficulty of accurately identifying suicide-related presentations from ED records and the importance of utilising multiple codes to mitigate the significant underestimation of presentations.

A limitation of previous research has been the sole focus on quantitative data. Utilising a mixed-methods approach, this thesis qualitatively explored the reasonings behind inaccurate and inconsistent coding practices for suicidal crisis. To our knowledge, this is the first exploration of this within UK ED settings. Consistent with research in the USA and Australia, both contextual and staff-related factors impact coding practices. Primarily, the busy ED environment suffers from a lack of privacy and time constraints, which prevents the necessary mental health assessment from occurring at the time of coding (Howell et al., 2013). Furthermore, ED staff do not receive the training required to reliably apply these codes, which is further exacerbated by variations in clinicians' experience (Phillips et al.,

2015) and the fact that patients are often reluctant to divulge information due to stigma (Berk & Asarnow, 2015).

Within Chapter 7, the high level of missing data within and between ED sites was noted. High levels of missing data can undermine the overall quality and reliability of ED records, leading to inaccurate patient profiles, diagnoses, and treatment histories. In clinical practice, this missing data can also hinder the ability of ED staff to provide optimal care. Addressing the issues of missing data can result in long-term benefits for patient care, research, and healthcare management (Wells et al., 2013). Enhanced data completeness can lead to more accurate diagnoses, improved treatment outcomes and more effective clinical decision-making.

Inaccuracies in documentation also have implications for a patient's journey throughout the ED and follow-on care. There has been evidence of a 'treatment mismatch' specially for self-harm presentations, in which physical injuries are used as the rationale behind the code recorded (i.e., self-harm recorded as 'laceration'), resulting in a subsequent underreporting of such presentations in hospital records (Clements et al., 2016). Some ED staff may focus solely on wound management, overlooking mental health aspects. Treating self-harm primarily as a physical injury may lead to missed opportunities for assessing and addressing the underlying causes of emotional and psychological distress that often accompanies this behaviour.

9.2.3. Decision-Making – The Importance of *All* ED Staff

The decision of an individual to seek help is influenced by a number of different factors and, as highlighted in Chapters 4 and 8, may be increased among specific groups (those aged 18-24 years, with lower levels of social support). However, once a person attends the ED following self-harm or in suicidal crisis, what factors then influence the patient's journey through the ED? Chapters 5 and 6 thus examined the factors that influence ED staff decision-making. From a systematic analysis of the literature, Chapter 5 identified three groups of factors: patient, contextual, and staff-related factors. However, while Chapter 5 was the first step in exploring the limited existing literature, questions remained around the impact of the hospital setting and staff's subjective perspectives of their decision-making processes; therefore Chapter 6 aimed to further explore staff perspectives and decision-making.

Within Chapter 5, patient-related factors were most commonly cited to influence staff decision-making (McCarthy et al., 2023b). Important to note, however, is the inconsistencies across studies, i.e., some report increased hospital admission for females (Faris et al., 2019), whereas others say males (Griffin et al., 2020). This implies that no ‘one size fits all’ approach exists when assessing and responding to individuals in suicidal crisis (Jobes & Chalker, 2019), instead highlighting the unique and context-dependent nature of each case. The interpretations of these inconsistencies should drive for greater standardisation in suicidal crisis training for ED staff, ensuring evidence-based practices are widely implemented. By addressing inconsistencies in ED staff decision-making, ED services can work towards improving patient pathways, enhancing the quality of care and individual interactions with people presenting in suicidal crisis. Any new training implemented should draw on the relevant literature in a way that allows clinicians to adopt an approach that is informed by the evidence base, whilst at the same time taking account of the unique nature of each patient’s presentation.

Contextual factors have been cited less frequently across the literature, as highlighted in Chapter 5, which is surprising given the current pressures and resource constraints EDs and staff face (González-Gil et al., 2021; Blackburn, Ousey & Goodwin, 2019). Limited service and staff availability can negatively impact the quality of care provided to individuals in suicidal crisis, leading to shorter evaluations and less comprehensive assessments, which can in turn can impact on the development of appropriate care plans and follow-up support (Kelen et al., 2021; McCarthy et al., 2023c). If clinicians have less time and are under pressure, the capacity for staff to also hold a compassionate and validating stance to the patient’s emotional difficulties may be compromised (Stevens & Al-Abbadey, 2023). Service and staffing pressures may further impact on a clinician’s rational decision-making (system two according to the dual process theory). As such, ED staff may be forced to take more risks in their decision-making due to the reliance on system one (Nathan et al., 2021).

The physical ED environment has also been reported to present challenges to staff supporting people presenting in suicidal crisis; the chaotic, noisy, and distressing environment (e.g., McCarthy et al., 2023c; Foster et al., 2021), as well as the lack of space to conduct confidential, meaningful assessments (Guinther et al., 2014). In line with past work, Chapters 5 and 6 demonstrate the systemic barriers to providing quality care, for example, poor access to mental health staff and inpatient psychiatric beds (Cullen et al., 2019; Duggan et al., 2020).

Broader recognition of the vast systemic changes that are needed to improve the ED has prompted researchers, clinicians, service providers, and the Government to question whether the ED is an appropriate service for suicidal crises (Rheinberger et al., 2022). Alternatives to the "failed system" have been explored in Australia (e.g., NSW Government, 2020) and the UK (e.g., Wessex Academic Health Science Network, 2017). However, further explorations and evaluation are needed of similar services in the UK, as the ED remains an important setting given it is the only 24/7 option and is required to treat physical injuries that can result from self-harm, self-poisoning, or a suicide attempt. Chapter 8 was the first UK exploration into a newly implemented crisis line service in Cheshire, highlighting the accessibility and utility of alternative community services for people in suicidal crisis, which may address the challenges raised in regard to the ED environment (McCarthy et al., 2023d).

Furthermore, ED staff, specifically administrative and medical staff (Chapter 6), were concerned about the overall lack of mental health training to support them in engaging in conversations about suicidal thoughts and/or behaviours. Feelings of anxiety and fear were discussed in both Chapters 5 and 6, whereby staff were then risk averse in their decision-making for people presenting in suicidal crisis (Nathan et al., 2021; McCarthy et al., 2023c). Although it is vital to ask directly about suicide, research has shown that many healthcare staff do not ask about suicidal thoughts in fear that asking about suicide will create the idea of suicide or increase distress (Roush et al., 2017), although this has been shown to not be the case (Deeley & Love, 2010; Cukrowicz et al., 2010). Staff burnout has also been linked with risk averse decision-making, which in some cases has resulted in staff resigning or transferring from positions in the ED (McCarthy et al., 2023c; Rössler, 2012; Schneider et al., 2019). Thus, Chapters 5 and 6 indicate the associated fear and anxiety surrounding suicidal crisis presentations, and the resultant staff decisions, to be a prominent concern, which warrants further exploration, research, and intervention. These staff-related concerns have been widely recognised in the literature, as well as within policy documents (Pawaskar et al., 2022). Within the UK, the NHS Long Term Workforce Plan (2023) aims to boost recruitment by funding additional education and training; utilising the findings from Chapters 5 and 6 to address the common concerns of staff may be beneficial to achieving this goal.

9.3. Strengths and Limitations

The strengths and limitations of individual studies are addressed within each chapter. Therefore, this section recognises the broader strengths and limitations of the overall thesis as a collective body of work.

A key strength of this thesis is the large dataset obtained across multiple ED sites. Typically research in this area is (1) restricted in the search strategy used to obtain suicide-related presentations (i.e., utilising only chief complaints) and (2) limited to one ED site. Confidence can be gained from the present findings due to the broader search strategy and use of data across six EDs. However, the variability in data collected within and between ED sites posed challenges. Different variables were available between sites, and there were inconsistencies in how the variables were recorded; for example, some ED sites recorded individual patient age, whereas others grouped age into categories. Thus, to examine differences between ED sites, an overall dataset needed to be created, whereby data were reduced or adjusted to produce consistent variables across sites. This restricted the level and type of data analysis that could be conducted, and we were ultimately limited to descriptive analyses to account for variability within the data. Nevertheless, the variation in data collection processes between sites was actually an important insight that helped to advance the aim of identifying problems with coding practices, and was thus a limitation but also a strength of the research.

A key strength of this thesis is the collaborative working with EDs and a range of ED staff, as well as public and patient involvement at every stage. Firstly, working with the EDs allowed for a valuable insight into clinical expertise. ED staff were able to provide real-world knowledge on how ED pathways work in practice, which often differed from what was reported in the literature. Indeed, the real-world insight allowed for a better understanding of the day-to-day operations, workflow, and decision-making processes within the EDs. Similarly, public and patient involvement furthered this real-world insight, providing an understanding of what happens from a patient perspective and any difficulties or challenges people presenting in crisis may face (e.g., negative interactions). The input of clinical expertise also allowed for valuable insights into data collection, i.e., what was routinely collected within EDs and what we as researchers would be able to access and how. This was particularly important and useful for facilitating recruitment, as staff assisted with identifying eligible participants for the qualitative aspect of this thesis. Finally, a strength of the collaborative approach improved data interpretation and ensured findings had practical and applicable implications to ED services and patient care. Having continued contact with EDs post-data collection has also enhanced dissemination of findings within the participating Trusts, ensuring research findings are communicated to the relevant staff within EDs, as well as with stakeholders and policymakers. For example, the author has presented findings at a number of NHS events to ensure key staff are aware of the research findings. Training is also currently being developed within CWP to improve compassionate care and increase confidence among staff who regularly support people in mental health crisis.

With that being said, engagement was not always easy. EDs are busy environments, with staff juggling multiple competing demands and significant resource limitations. The engagement of staff posed particular challenges for the research, particularly during the COVID-19 pandemic, in which there was significantly slower progress at the outset. It was often difficult to find the correct person to liaise with for data collection and this initially posed limits to the data that were available and accessible. In my experience, it was not necessarily that staff members did not want to help, but rather that the increased workload, pressures, and burnout staff faced impacted on participation. Despite these initial struggles, the development of strong relationships and regular communication with various ED staff assisted the project development and ensured deadlines were met.

Finally, in this thesis, mixed methods were used to collate data which arguably provides a unique and useful contribution in an area of clinical importance, given the limited published research (Niederkrotenthaler et al., 2020). Previously, the available literature has adopted predominantly quantitative methodologies. Although these data have provided useful context and figures on the estimated number of suicide-related presentations to EDs, there have been few qualitative explorations of ED staff members' insights. The mixed-methods approach adopted here allowed for novel insight into staff perspectives and experiences, allowing for voices that are often underrepresented in research to be heard. For example, the experiences and factors influencing administrative staff's coding practices for people attending in suicidal crisis were previously unknown. This in particular is a real strength of the present thesis as if we imagine the experience through a patient's eye, then we can see that all interactions are important. Not only are reception staff the first person who the individual may come across (and have to disclose difficult thoughts and feelings to) but they are likely to see the reception staff as part of a group of people who are working together within the ED. Although researchers and clinicians might perceive the clinical work to be the critical aspect of the pathway, when it comes to emotional/mental health problems all interactions are important and have a potential influence on a patient's state of mind. Thus, utilising a mixed-methods approach has allowed for a more holistic understanding, accounting for the complexity of suicidal crisis and different staff experiences. These findings also add to the sparse field of research on ED staff decision-making for people in suicidal crisis. The thematic approach used for interview data allowed for a detailed exploration into a range of factors influencing decision-making, revealing the similarities and differences in the challenges different staffing roles face (McCarthy et al., 2023b).

9.4. Implications and Future Directions

9.4.1. Clinical Practice

Typically, the main issue with research outputs related to clinical issues is that the findings are not reconnected within clinical practice and the wider healthcare system (Robinson et al., 2020). It was therefore important for the author to consider not just the academic impact of findings, but also ensure implications and recommendations are reasonable and appropriate for clinical practice and service delivery.

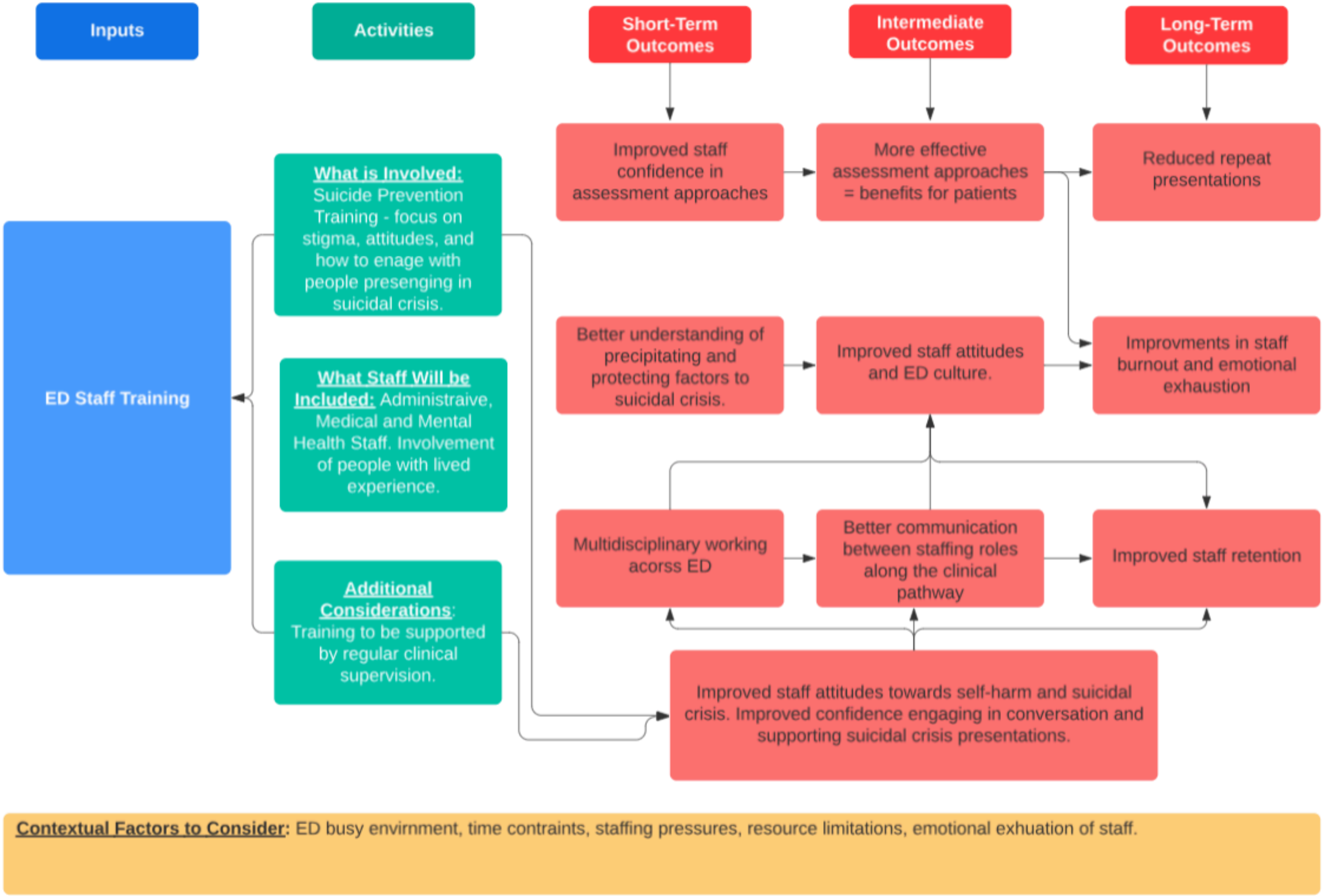
As consistently noted throughout this thesis and in the existing literature (e.g., Foster et al., 2021), there is a strong need for suicide-specific training within EDs. People who attend the ED in suicidal crisis or following self-harm are most commonly treated by generalist healthcare staff with limited specialist mental health training (Pawaskar et al., 2022). In a recent systematic review, Zarska et al. (2023) examined 15 studies of training interventions for ED providers for patients who self-harm. Training was reported to be linked with pre-post improvements in staff knowledge, but less consistently with improvements in skills, attitudes, and confidence (Zarska et al., 2023). What is missing from current practice is focused training addressing negative staff attitudes, possibly by involving people with lived experience, as well as addressing staff's limited confidence to support and engage with people presenting in suicidal crisis (McCarthy et al., 2023).

Despite the importance of training implementation, many considerations need to be made. As noted by a participant in Chapter 6, ED staff face significant pressures, including limited resources and competing priorities: "*A&E is in crisis at the moment, staffing wise…what do you send someone on, a resuscitation course or mental health course?"* (Consultant in Emergency Medicine: 02). Maintaining adequate staffing levels during training sessions is also crucial to ensure patient care is not compromised, ensuring staff are happy and are therefore kind to patients, as well as finding space for training within staffs' long working hours. The financial implications of such implementation are also important to consider, given the associated cost of instructors, materials, and staff time away from clinical duties. Nevertheless, training is not only essential for staff development but also for ensuring high-quality patient care (Innes et al., 2014). Figure 11 displays a draft logic model to highlight the significant short-term, intermediate, and long-term outcomes.

It is also important to evaluate whether training investment leads to sustained improvements in patient care and staff performance (Shapiro et al., 2004). Without reinforcement and practice, research has highlighted the effects of training to be short-lived (Ameh et al., 2018).

Thus, it is important to think beyond just delivering training to consider how we hold staff accountable long-term. This may be done through different methods, such as booster sessions, designated ‘product champion of training’ and online, accessible resources. Additionally, future initiatives may consider offering healthcare staff incentives, such as CPD (continuing professional development) credits for their participation in training to ascertain the impact of mandatory training (Zarska et al., 2013).

Figure 10. Logic Model Example for ED Staff Training.



9.4.2. Policy

The recording of suicidal crisis presentations to EDs has been shown to be inappropriate and lack precision, having important implications for a patient’s experience and journey during and post ED attendance. Poor data is hampering efforts to care for those affected, underestimating the number of people presenting, as well as impacting on effective funding and resource allocations.

Research and development in monitoring systems within the ED should be a key priority for healthcare services moving forward (Robinson et al., 2020; World Health Organisation, 2016). For instance, the development and implementation of a standardised ‘suicidal crisis’ code is urgently needed to ensure accurate and timely data collection (McCarthy et al., 2021; McCarthy et al., 2023), whilst minimising the pressure on staff and recognising the constraints of the ED environment. As discussed in Chapter 3, ICD-10 guidelines state that the ‘suicidal ideation’ code should only be used if the clinician is certain there is no underlying mental disorder (McCarthy et al., 2021). Thus, the introduction of a new ‘suicidal crisis’ code may reduce the uncertainty staff face when coding suicide-related presentations, resulting in more accurate recording. However, it is important that a new code is first piloted in a small number of EDs, to examine whether search terms and screening procedures are robust. An essential aspect of the implementation must be regular, ongoing engagement with stakeholders (including a range of ED staff, researchers, and government organisations), as well as people with lived experience to ensure the terms are appropriate, and changes to practices are beneficial for clinicians, patients, researchers, and policymakers. Furthermore, as highlighted within Chapter 8, it is also important to ensure hospital record systems are ‘user friendly’ and accessible – improving navigation, including prompts to fill in certain fields and codes, and ensuring all systems across the ED are integrated with one another (Yoo et al., 2013). More research is needed to ensure systems are ‘user friendly’ for staff, whilst still ensuring all relevant data and information is accurately and promptly recorded.

Furthermore, clear guidelines would need to be made available to ED staff and additional training would be required to ensure the code is implemented in the most efficient and effective way. The development of clear and comprehensive policies and procedures outlining how the code will be implemented, including data collection, privacy, protection, and ethical considerations is needed. Additionally, the establishment of mechanisms for ongoing monitoring and quality assurance would then be required to ensure the code is being used correctly and consistently.

A number of considerations and policy implications also need to be considered. Greater assurances are required on the patients' right to object, protecting privacy, and reducing the burden on ED staff. Some individuals may be hesitant to seek help or disclose their suicidal thoughts due to fear of stigma and discrimination (Chan et al., 2014; Lindow et al., 2020). As such, policymakers must ensure that implementing a crisis code does not exacerbate these concerns. One way to achieve this is to work collaboratively with people with lived experience to hear their views and concerns about such work. Indeed, it is important to note that the PPI group involved in this research did not have such concerns. Healthcare staff must also then receive appropriate, universal training to implement the code effectively and compassionately. Additionally, improving the awareness of ED staff and the public on the code's purpose and benefits may also improve practices. This may require additional resources, staff training, and technology/data management system updates; thus, budget considerations must be addressed.

Major changes to coding practices would be a substantial challenge to EDs and researchers. However, prioritising this would not only result in considerable patient benefit, but also have advantages for policy (McCarthy et al., 2021). A standardised 'suicidal crisis' code would significantly improve data collection, analysis, and reporting. These data would help policymakers, researchers, and healthcare providers gain a clearer understanding of the number of presentations and the nature of suicidal crisis in the community. In turn, this information can contribute to research efforts focused on risk factors, effective interventions, and prevention strategies; this can then inform evidence-based policies and programmes to reduce suicidal crisis in the community (Griffin et al., 2019). The availability of accurate data would also allow for the monitoring of trends over time, to help identify individuals and areas at greater risk and, thus, support more effective allocation of funding (Witt & Robinson, 2019).

9.4.3. Future Research

As previously discussed, research in the area of ED coding practices and staff decision-making, specifically for people attending in suicidal crisis, is extremely limited globally and within the UK. Although I have attempted to build upon the evidence base and address previous methodological limitations, new questions and avenues for future research have developed.

Firstly, while a key strength of this thesis is the inclusion of ED data across multiple sites, this meant that I had access to a wealth of additional variables which were beyond the scope of this current research. As such, there is a potential to further explore and enhance the evidence base regarding ED attendances and coding practices for suicidal crisis. In particular, it would be useful to explore the link between certain diagnostic codes and patient outcomes, i.e., if an individual received a diagnostic code of ‘depressive disorder’ what is the most common outcome and pathway, compared to those who are coded as ‘no abnormality detected’? Exploring this link would allow for a better understanding of the long-term impact of coding practices and provide further insight into and implications of staff decision-making regarding patient pathways.

Secondly, ED administrative staff represent an important part of the clinical pathway and are often the initial point of contact for people presenting in suicidal crisis, yet they have been significantly underrepresented in research (Owens et al., 2016). Chapter 6 is a first step in exploring the needs and perspectives of ED administrative staff, but more work is needed given the importance of this interaction in influencing whether a patient absconds from the ED or engages in future help-seeking behaviour (Redfern et al., 2009). Administrative staff within the current research expressed particular concern and limited confidence in engaging in conversation about suicidal thoughts and behaviours, in fear they would say the wrong thing and increase distress (McCarthy et al., 2023). It was noted how reception staff would benefit from having a resource, for example, a short ‘cheat sheet’ on how to ask about suicide in a safe, appropriate, and compassionate way. Future research should look into whether this is feasible and effective within EDs, as well as work collaboratively with people with lived experience to ensure the resource involves compassionate terminology.

As touched upon previously, it would be beneficial to implement specific suicidal crisis training within EDs for all staff who come into contact with this patient group (e.g., Chapter 6; McCarthy et al., 2023c). More research is needed to explore what this training should involve, how it should be delivered, and the length of time it is implemented, specifically from the ED staff members’ point of view. While the gold standard procedure to test any intervention or training is a randomised controlled trial (RCT) (a prospective experiment where researchers randomly assign people to either an intervention or control group and the effects of the intervention are then compared), the existing pressures and time constraints ED staff face mean that RCTs may be challenging to implement in this setting. Future research must therefore weigh up the benefits and challenges of conducting this work within EDs and consider alternative designs.

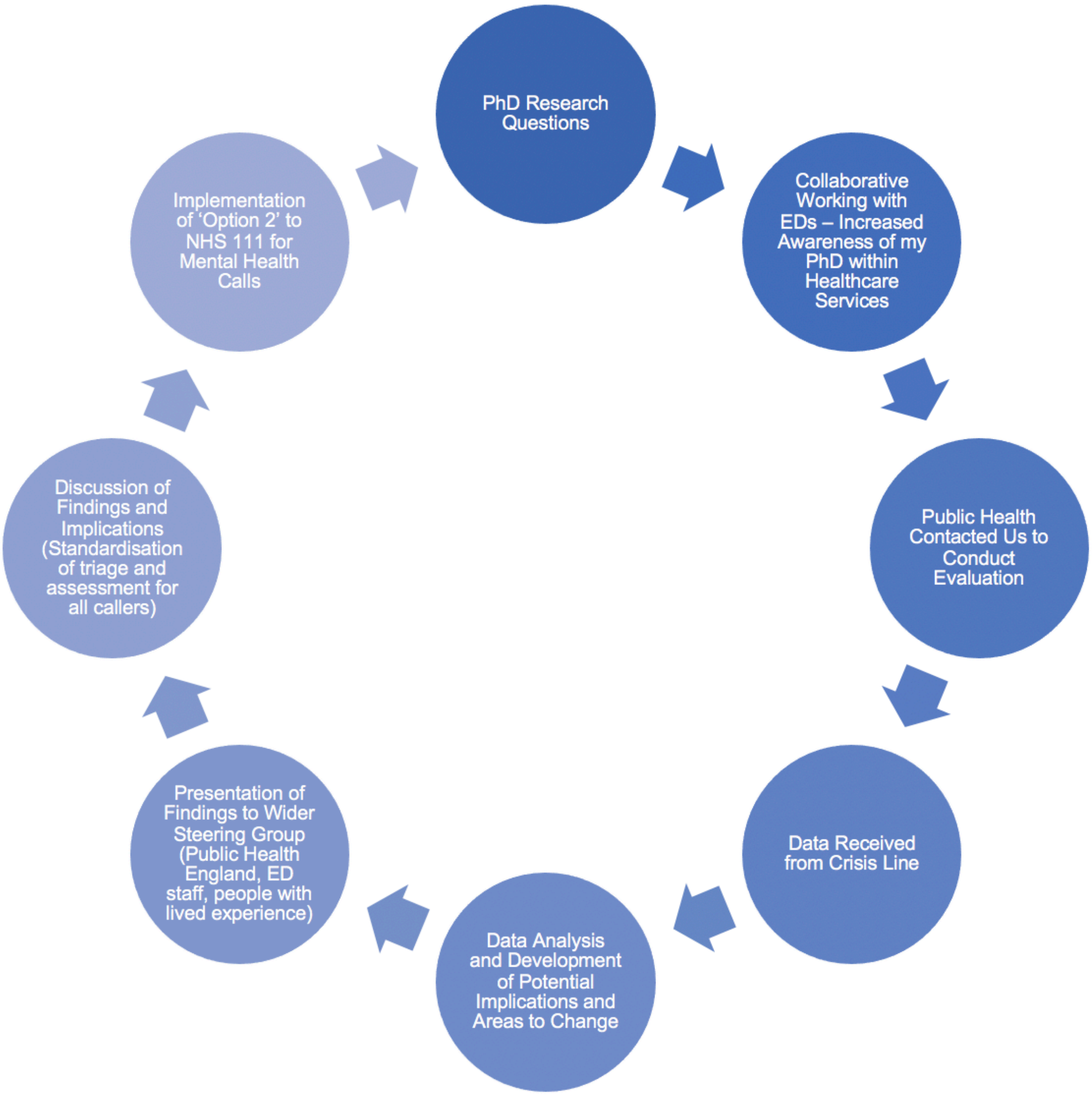
Finally, suicide prevention has been identified as a top priority area for research and practice within government reports and policy, with a specific focus on the important role of EDs (Pearce et al., 2022; Miller et al., 2017). Knowledge exchange and implementation programmes are required to allow interaction between stakeholders, which will include consulting and collaborating with people with lived experience of suicidal crisis and/or behaviours. Therefore, it is important that future research in this area adopts a collaborative approach, involving the active engagement of all stakeholders and knowledge users, such as policymakers, researchers, and service users (Figure 12). By acknowledging the unique contribution of all stakeholders, work can be done to bridge the implementation gap between research and practice (Mallonee et al., 2006; Dubois et al., 2020) and bring about action to improve access, service processes, and follow-on care.

Figure 11. Stakeholders involved in ED Healthcare Knowledge Exchange and Implementation.

9.5. Dissemination and Impact

The implementation gap between research and practice is a common challenge, particularly in healthcare settings like EDs. It signifies the delay or failure in translating research findings and evidence-based practices back into routine clinical practice, which can have significant implications for healthcare services (i.e., wasted resources) and patient outcomes (i.e., quality of care) (Haines et al., 2004). Thus, it was a key priority for the research team to ensure findings were relevant, applicable, and used within the recruited EDs. In an attempt to do so, I ensured the maintenance of strong working relationships with ED staff to promote a feedback loop in which findings and implications would be discussed to gauge what is useful for staff. An example of a feedback loop relevant to this thesis is presented in Figure 12. This figure highlights the importance of collaborative working and how research findings can have real implications on how services are run.

Figure 12. Example Feedback Loop for Chapter 8.



In addition to ensuring clinical relevance and translation of research findings to practice, it was also important for us to consider the wider impacts on policy. The UK Government recently released a policy paper with a focus on suicide prevention in England for the next five years (Department of Health & Social Care, 2023). One of the aims of the cross-government strategy is to improve support for people who have self-harmed. Key priority areas were identified, with one relating to improving data and evidence. With the significance and relevance of the thesis findings, we submitted written evidence to inform the Government inquiry into Access to Urgent and Emergency Care (see Appendix 6). The inquiry was discussed within the UK Parliament and used to question senior officials at the Department of Health and Social Care and NHS England on the current state of the accessibility of urgent and unplanned services, their main operational constraints, and plans to address these challenges (UK Parliament Committees, 2023). The evidence is also publicly available on the committee's website at https://committees.parliament.uk/writtenevidence/122005/pdf/.

9.6. Conclusion

This thesis makes a critical contribution to research methods, clinical practice, and Government policy relating to ED coding practices and staff decision-making for people attending in suicidal crisis. In highlighting some of the challenges and inconsistencies in ED coding practices for suicidal crisis, the current thesis has been able to offer clear future considerations for practice and policy and avenues for future research, such as exploring the link between diagnostic coding practices and patient outcomes, as well as developing and evaluating training programmes. It also offers a review and insight into the factors that influence ED staff decision-making for this patient group. The evidence presented here, alongside peer-reviewed publications in academic journals, highlights a lack of, but a clear need for, future work in this area, particularly in a UK ED setting. The specific implications of this research for clinical practice and policy relate to implementing a standardised 'suicidal crisis' code (alongside guidelines and in collaboration with PPI groups) to improve recording and detection, and ensure appropriate patient care is provided within and post-ED attendance. Regular staff training should also be a priority, which would help address many of the issues documented in this thesis. In sum, the present thesis provides a thorough account of the challenges associated with suicide and self-harm coding in ED and related settings and how they can be overcome for the benefit of patients, staff, and the wider community.

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Appendix

1. PPI Advert

Role Title: Public Advisor Role
Location: To be confirmed. Remote meetings currently.
Time Commitment: Flexible to the needs of the volunteer.

Liverpool John Moores University in conjunction with local NHS Trusts (Mersey Care NHS Foundation Trust and Cheshire Wirral Partnership NHS Trust) are working together to develop a research project.

We are currently recruiting service users and/or clinical staff who work along A&E care pathway who come into contact with patients in suicidal crisis.

Background
Suicide is a major public health issue. Although national data is available for individuals who attend A&E for self-harm and suicidal injury, there is no national data for those individuals who attend A&E in suicidal crisis. Furthermore, the clinical pathways available for patients after presentation in suicidal crisis are complex and they have not yet been examined systematically. Gaining a greater insight into the configuration and utilisation of clinical pathways for patients in suicidal crisis will better inform modelling of service provision for these patients.

This study will enable two mental health trusts across Cheshire and Merseyside to review 8 A&E departments' hospital data for patients who attend in suicidal crisis. This research is required to determine whether data collection at A&E sites is acceptable and feasible for planning the most effective pathways for individuals who attend in suicidal crisis. The aim is to gain an understanding of how these visits are coded, and whether the pathways of care are consistent at each site. To our knowledge, this is the first study to explore suicidal crisis data at A&E level and we want to test the feasibility across two trusts with the aim of developing a national data collection tool for A&E departments track people who attend in suicidal crisis.

Role of the Public Advisor(s)
To be eligible for the role, you must have used A&E services in suicidal crisis in the past and/or are a clinical staff member who works along the care pathway with patients in suicidal crisis.

Applicants must feel able to express their views and bring their much-valued experience to the meetings.

This is a voluntary, not paid opportunity.

Any travel expenses will be reimbursed in line with Trust policy.

Thank you for your interest in this research study, if you would like more information please contact:

Molly McCarthy, PhD student: m.mccarthy@2021.ljmu.ac.uk
Dr Pooja Saini, Director of Studies: p.saini@ljmu.ac.uk

Study Webpage: https://www.ljmu.ac.uk/suicidalcrisispatientattendance

2. PPI Terms of Reference

Project Steering Group Terms of Reference.

This document establishes the purpose and responsibilities of the Project Steering Group in regard to the PhD research conducted at Liverpool John Moores University titled ‘Configuration and utilisation of the clinical pathways by patients attending A&E in suicidal crisis’.

This research is being conducted by PhD Student Molly McCarthy (m.mccarthy@2021.ljmu.ac.uk) and supervisors Dr Pooja Saini (Director of Studies), Prof Taj Nathan and Dr Jason McIntyre.

1. PURPOSE

The role of the Project Steering Group is as followed:

- Assess proposed research applications.
- Provide independent and expert advice and guidance.
- Assess project progress and assist in developing connections within the proposed emergency departments, data collection and recruitment.
- Ensure that the research project objectives are delivered.

2. MEMBERSHIP

The Project Steering Group is voluntary and will consist of:

- Research Academic Leads
- Representative from each of the proposed data collection sites:
    - Cheshire & Wirral Partnership NHS Trust: Countess of Chester Hospital Accident and Emergency Department, Leighton Hospital Emergency Department, Macclesfield, Wirral University Teaching Hospital (Arrowe Park A&E).
    - Mersey Care NHS Trust: Aintree University Hospital Accident and Emergency, Royal Liverpool University Hospital Emergency Department, Southport and Formby District General Hospital, Warrington Hospital Emergency Department, Whiston Hospital Emergency Room.
    - Crisis Line.
    - Lived Experience.

3. RESPONSIBILITIES

The Project Steering Group will:

- Understand the research objectives and desired outcomes of the project.
- Have interest in the research outcomes and overall dissemination.
- Understand and represent the interests of the research project stakeholders.
- Provide direction and assist with developing links within the proposed research sites.
- Address any issues that has major implications for the research project.
- Provide mentoring / leadership.
- Provide advice and assist in the communication and promotion of the research.
- Actively participate in meetings through attendance, discussion, review of relevant project documents, papers.

- All committee members are aware that two consecutive absences will result in their membership being reviewed. An alternate can attend the meeting with advance notice and approval by the Chair.
- Make recommendations for the development of related research project materials and documentation.

4. MEETINGS AND PROCEDURES

The Project Steering Group will be supported by the Research Academic Lead. PhD Student Molly McCarthy will be responsible for preparing and distributing agendas, the minutes of the Project Steering Group meetings, research project update and other relevant and related research correspondence.

In making decisions, the Project Steering Group should aim for a consensus view. Where this is not achievable, PhD student and supervisors will have the casting vote and be the final arbiter in decisions about the research project(s).

The Project Steering Group will meet according to the schedule negotiated by the group in the initial and subsequent meetings.

The minimum number of meetings for the Research Steering Board is one per year. It is recommended meetings are scheduled twice a year. Meeting quorum is a minimum of four committee members (at least one expert by experience).

The Project Steering Group will receive further updates on the status of the research project(s) and on the significant research project developments.

3. Interview Consent Form

PARTICIPANT CONSENT FORM (ED STAFF)

IRAS Project ID: 298407.

Principle Investigator: Molly McCarthy (LJMU PhD student: m.mccarthy@2021.ljmu.ac.uk)
Supervisors: Dr Pooja Saini (p.saini@ljmu.ac.uk), Professor Taj Nathan (taj.nathan@nhs.net).
LJMU Central telephone number: 0151 231 2121

If you are happy to participate, please complete and sign the consent form below:

		Please initial
1.	I confirm that I have read the information sheet dated 27.05.21 (V3) for the above study, or it has been read to me. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
2.	I understand what taking part in the study involves.	
3.	I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions I can withdraw from the study at any time, without giving a reason and without penalty or my legal rights being affected.	
4.	I have been advised about potential risks associated with taking part in this study and have taken these into consideration before consenting to participate.	
5.	I understand that the study involves taking audio recordings of me and I am happy to proceed. I understand that I will not be able to participate in the study if I later decide not to be audio recorded.	
6.	I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project.	
7.	I understand that personal data will remain confidential and that all efforts will be made to ensure I cannot be identified in reports or any further outputs.	
8.	I understand the potential risks of being identifiable in reports and any future outputs when the findings of the study are disseminated.	
9.	I would like to receive a summary of the results from the research.	
10.	I agree to take part in this study.	

Data Protection. Any personal information we collect and use to conduct this study will be processed in accordance with data protection law as explained in the Participant Information Sheet and the Privacy Notice for Research Participants.

Name of Participant ____________________
Date ________________
Signature ______________________

I have witnessed the accurate reading of the consent form with the potential participant and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely:

____________________	____________________	____________________
Name of Investigator	Date	Signature

4. Interview Participant Information Sheet

PARTICIPANT INFORMATION SHEET (ED STAFF)

IRAS ID: 298407.

Title of Project: **Configuration and Utilisation of the Clinical Pathways by Patients who Attend Emergency Departments in Suicidal Crisis.**

You are being invited to take part in a research study. This research is being conducted as part of an educational PhD project at Liverpool John Moores University. You do not have to take part if you do not want to. Please read this information, which will help you decide.

1. What is the purpose of the study?

The aim of this project is to gather the views of clinicians' and Emergency Department (ED) staff who come into contact with people who attend EDs in suicidal crisis, following self-harm and/or a suicide attempt at any point along the care pathway (i.e., whether that be at reception, triage or liaison psychiatry). Additionally, we aim to collate ED staff views of their experience of the management and treatment of people attending ED in suicidal crisis.

This study hopes to answer the following questions:

a) What are the experiences of ED staff working with people attending in suicidal crisis at different points along the care pathway?

b) What factors affect the decision-making involved in the management and treatment of people attending EDs in suicidal crisis?

2. Why have I been invited to participate?

In order to understand ED staff member's experience of the management and treatment of people attending EDs in suicidal crisis, one-to-one interviews will be held with a range of staff. You have been invited because you fall into this group.

3. Do I have to take part?

No. You can ask questions about the research before deciding whether to take part. If you do not want to take part that is ok. We will ask you to sign a consent form and will give you a copy for you to keep. Interviews will be audio recorded.

4. What will happen to me if I take part?

The interview will take place online via Microsoft Teams and should take approximately 30 minutes. The researcher will encourage a discussion about your experience of working in an ED setting and work with those individuals attending in suicidal crisis. Open and honest discussion will be encouraged. You will be offered regular breaks as necessary. You can also ask to pause or stop the interview at any time. Please remember, you have the right to decline to answer any questions you do not want to.

5. Will I be audio recorded and how will the recorded media be used?

Audio recording is essential to your participation, but you should be comfortable with the audio recording process. You are free to stop the recording at any time and therefore withdraw your participation. With your consent, recordings taken of you may be used in the final report and any further outputs. Please notify the investigator if you require any restrictions on the use or availability of recordings at the time or in the future. The audio recordings of your activities made during this study will be used only for analysis. No other use will be made of them without your written permission.

6. Are there any risks in taking part?

In certain exceptional circumstances where you or others may be at significant risk of harm, the researcher may need to report this to an appropriate authority. This would usually be discussed with you first. Examples of those exceptional circumstances when confidential information may have to be disclosed are:

- The investigator believes you are at serious risk of harm, either from yourself or others.

7. Are there any benefits in taking part?

Participants may benefit from the knowledge that they are helping to inform clinical practice, which may help people experiencing suicidal crisis, as well as other ED staff involved with this patient group in the future. Gaining greater insight into the configuration and utilisation of clinical pathways for service users in suicidal crisis will better inform the modelling of service provision for these patients. Research has shown that participation in such research is a positive experience for many participants (Blades et al., 2018).

8. Payments, reimbursements of expenses or any benefit or incentive for taking part:

There will be no payment or any benefit or incentive for taking part in this study. Unfortunately, we cannot reimburse any expenses you may incurred.

9. What will happen to information / data provided?

The information will be recorded, anonymised and treated confidentially. Members of the project team will undertake a thematic analysis of the transcripts. The project team includes researchers from the Liverpool John Moores University who may be involved in analysing anonymised transcripts. This means identifying the main themes relating to your experience from the discussions. Each theme will be illustrated by short verbatim anonymised statements from the discussion.

We will attempt to ensure you are not identifiable in final reports and any further outputs. Please note that confidentiality may not be guaranteed; for example, due to the limited size of the participant sample, the position of the participant or information included in reports, participants might be indirectly identifiable in transcripts and reports. The investigator will work with the participant in an attempt to minimise and manage the potential for indirect identification of participants.

10. Who is organising and funding the study?

The study is organised by Liverpool John Moores University and Cheshire and Wirral Partnership NHS Foundation Trust. The study is funded by Liverpool John Moores University as part of a PhD research project.

11. Where can you find out more about how your information is used?

You can find out more about how we use your information
- At www.hra.nhs.uk/information-about-patients/
- Our leaflet available from www.hra.nhs.uk/patientdataandresearch
- by asking one of the research team
- by sending an email to m.mccarthy@2021.ljmu.ac.uk
- by ringing us on 0151 231 8121

12. Whom do I contact if I have a concern about the study or I wish to complain?

If you have a concern about any aspect of this study, please contact Molly McCarthy or Dr Pooja Saini and we will do our best to answer your query. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at Liverpool John Moores University who will seek to resolve the matter as soon as possible:

> Chair, Liverpool John Moores University Research Ethics Committee; Email: FullReviewUREC@ljmu.ac.uk; Tel: 0151 231 2121; Research Innovation Services, Liverpool John Moores University, Exchange Station, Liverpool L2 2QP

13. Data Protection

Liverpool John Moores University is the data controller with respect to your personal data. Information about your rights with respect to your personal data is available from: https://www.ljmu.ac.uk/legal/privacy-and-cookies/external-stakeholders-privacy-policy/research-participants-privacy-notice

14. Who has reviewed this research?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by Wales Research Ethics Committee (IRAS ID: 298407).

15. Contact Details:

Molly McCarthy, PhD Student, School of Psychology, Liverpool John Moores University
Email: *m.mccarthy@2021.ljmu.ac.uk*

Dr Pooja Saini, Reader in Suicide and Self-Harm Prevention, Chartered Psychologist, School of Psychology, Liverpool John Moores University
Tel: 0151 231 8121
Email: *P.Saini@ljmu.ac.uk*

Professor Rajan (Taj) Nathan, Consultant Forensic Psychiatrist, Director of Research
Cheshire and Wirral Partnership NHS Foundation Trust
Tel: 0151 488 7311
Email: *taj.nathan@nhs.net*

Thank you for reading this information leaflet and considering taking part.

5. Interview Schedule

Configuration and Utilisation of the Clinical Pathways by Patients Attending A&E in Suicidal Crisis.

Qualitative Interview Schedule.

This study is part of PhD research conducted by Liverpool John Moores University titled 'configuration and utilisation of the clinical pathways by patients attending A&E in suicidal crisis'. The project aims to explore ED attendance, coding, clinical pathways and decision-making for people in suicidal crisis via 1:1 interviews with emergency department staff. You have been invited to take part in this research as you are currently working in an ED setting.

Before you decide to take part, it is important that you understand why the project is being carried out and what it will involve. **Please take time to read the consent form information carefully.** 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.

Date of Interview:	
Length of Interview:	
Job Role:	
Length of Time Working in ED Setting:	

<u>CONTEXT: What is Suicidal Crisis?</u>
Suicidal crisis is a spectrum that ranges from an individual having thoughts about death without any intent or plan to act upon these thoughts, to having specific suicidal thoughts with an intention and plan. It has been shown that the more pervasive the suicidal crisis, the more likely the individual is to engage in self-harm or to attempt suicide. In this interview we will refer to patients with self-harm, in suicidal crisis or perhaps experiencing both. When we refer specifically to suicidal crisis, we are interested only in those people with suicidal thoughts, and without any physical self-harm.

1. Firstly, can you tell me about your role in regard to individuals who are attending EDs in suicidal crisis and/or following self-harm?
    a. Can you tell me about your experience of working with individuals who attend EDs in suicidal crisis or with self-harm?
        i. Tell me more…
    b. What point would you come into contact with this patient group?

2. Can you tell me your thoughts on self-harm in general?
    a. What types of behaviour do you consider to be self-harm?
    b. What do you consider to be suicidal behaviour?
    c. Why do you think people experience suicidal crisis, self-harm or attempt suicide?

3. Can you tell me your views towards patients who attend EDs in suicidal crisis or following self-harm?
    a. Why do you have this view?
    b. Do other staff have the same view towards these patients?

4. Do you think your views towards patients in suicidal crisis and following self-harm affects decisions you make regarding their care?
    a. Do the views of other clinical staff affect decisions regarding the care of patients in suicidal crisis or following self-harm?

CONTEXT: We are aware that ED staff are trained to treat and manage physical self-harm injuries and physical injuries as a consequence of a suicide attempt.

5. Can you tell me about whether you think ED staff are adequately prepared to support patients attending in suicidal crisis?
    a. Do you think staff have received enough training for suicide prevention?
    b. Do you think staff have knowledge and confidence when managing patients in suicidal crisis?
        i. Tell me more…

6. Can you tell me about the decisions that you make when managing patients in suicidal crisis and self-harm? What factors influence your decisions?
    a. Are these factors the same for other staff?

7. Can you tell me about how service staff availability (including MH liaison services in your hospital) has influenced the care of patients attending in suicidal crisis or following self-harm?
    a. Has care been affected by the COVID-19 pandemic and in what way?
    b. Has care been affected by staff burnout and in what way?
    c. Where are patients commonly being referred to following ED? Has this changed since COVID?

CONTEXT: The following question relates to coding practices for suicidal crisis, self-harm and suicide attempt. This relates to how these presentations are recorded and coded onto electronic records, for example, in presenting complaints or diagnostic codes.

8. Can you tell me about the current coding practices for suicidal crisis and self-harm and any problems that you have noticed?
    a. How are A&E attendances for suicidal crisis and self-harm usually recorded within A&E?
    b. From your perspective, are there any ways to improve the coding of suicidal crisis and self-harm?

9. From your perspective, are A&E sites the best place to resolve suicidal crisis? Specifically, are EDs the best place to treat and manage those individuals with suicidal ideation but no physical injury?
    a. Are there any alternative places you think are better to support individuals in suicidal crisis? Why?

10. From your experience, can anything else be done or put in place to better support staff involved in the treatment and management of patients in suicidal crisis and self-harm?
    a. Can anything else be done to better support the patients attending ED in suicidal crisis or following self-harm?

11. Is there anything else you would like to discuss?

6. Report for Government inquiry into Access to Urgent and Emergency Care

UK Parliament Call for Evidence – Access to Urgent and Emergency Care

This report is submitted by members of the Suicide and Self-Harm Research Group (SSHRG) at Liverpool John Moores University: Molly McCarthy, Dr Pooja Saini, Dr Jason McIntyre, Dr Emma Ashworth and Professor Rajan Nathan (Cheshire & Wirral Partnership NHS Foundation Trust). The group has expertise in suicide prevention and intervention design and implementation as well as conducting research within emergency care settings and utilising large hospital datasets. The group has conducted research into emergency department (ED) access and coding practices across six National Health Service (NHS) sites for suicidal crisis and self-harm. Key findings from our research include:

- Inaccurate coding practices across EDs for suicidal crisis; this means that suicide-related presentations are consistently being under reported which has important implications for people accessing support and follow-up care.
- The need for implementing a standardised code for suicidal crisis to ensure accurate and timely data collection and improve access to emergency care.
- Developing clear and standardised coding guidelines to support staff responsible for coding presentations is needed, as well as the introduction of regular and ongoing training for all ED staff in coding practices.

1. Improve Coding Practices for Patients in Suicidal Crisis.

Accurate identification of suicidal crisis and self-harm presentations to emergency departments (EDs) can lead to more timely mental health support, improve clinical pathways, patient experience, and support impact evaluation of suicide prevention initiatives. We conducted a mixed-method study with the aim of identifying (1) the most common codes used for suicidal crisis presentations and the extent of missing data, (2) why coding practices for suicidal crisis are inaccurate and inconsistent across EDs and (3) the factors that contribute to patients receiving an incorrect code or no code.

We collected data across six EDs in Merseyside and Cheshire from 2019 to 2021. The total sample for this dataset across the six participating EDs included 14,984 presentations for suicidal crisis, self-harm or suicide attempt. Further to this, qualitative semi-structured interviews were conducted with 23 administrative, medical and mental health staff to better understand the reasons behind inaccurate and inconsistent coding for suicidal crisis.

Results from our study highlighted the inconsistent and inaccurate coding practices across EDs for suicidal crisis. Across all six EDs examined, 3,358 suicidal crisis attendances were coded as ‘depressive disorder’ (21.8%) and 581 as ‘anxiety disorder’ (3.8%), despite the existence of a ‘suicidal crisis’ code. This means that attendances are consistently being under-estimated from ED databases. This has important implications for patients accessing emergency care, as well as ensuring appropriate mental health follow-up care is provided.

Interviews with ED staff elaborated on some of the reasons behind why the primary diagnosis codes of ‘anxiety disorder’ and ‘depressive disorder’ are consistently being used across sites in relation to suicidal presentations. One Consultant in Emergency Medicine stated:

> “We're limited with the coding that we can have. So, I think there's depressive disorder, there's anxiety disorder, psychotic disorder, and then a couple of others. Now, what you can do is, code formally the depressive disorder, but then in the actual discharge letter, you can then put an anxiety disorder with suicidal ideation.” (02: Consultant in Emergency Medicine).

This quote illustrates the way codes can conceal the complexity of the real nature of the presentation and can misreprest suicidal presentations to EDs.

The primary diagnosis code of ‘no abnormality detected’ was used across all EDs, with 23.6% of all suicidal crisis attendances receiving the code. In interviews, 12/23 staff reported that they use the code ‘no abnormality detected’ in relation to suicidal presentations. Staff elaborated on the reasons behind this and often discussed the absence of an appropriate or relevant suicidal crisis code, leaving staff with no other option.

Across all six EDs, the primary diagnosis code was left blank on 18.4% of occasions. During the interviews, staff often noted the contextual factors that impede accurate coding of suicidal presentations, resulting in a high level of missing data. In the fast-paced environment, ED staff faced additional pressures and challenges which impacted negatively on their ability to accurately code and make good decisions (McCarthy et al. 2023). Limited time, competing demands and inadequate training in suicide documentation often resulted in staff leaving the code blank. This means suicidal presentations are not being recognised on ED databases, which has implications for patients receiving appropriate care.

Implications for Access to Urgent and Emergency Care:

Poor ED coding practices hinders the ability to accurately identify individuals at risk of suicidal ideation and self-harm (McCarthy et al. 2021). This can have significant implications for patient treatment and support, such as ensuring referrals to mental health services and appropriate follow-up care is received. For example, if self-harm presentations are recorded as ‘laceration’, it is more difficult to identify future mental health support needs.

Furthermore, inaccurate coding within EDs results in significant underestimation of suicidal crisis presentations. Inaccurate or biased data collection can lead to ineffective allocation of funding and resources. **Implementing a standardised code for suicidal crisis is urgently needed to ensure accurate and timely data collection**. This could be done by piloting the new code within a small number of EDs to ensure the code is being implemented appropriately. It would also be beneficial to **develop clear and standardised coding guidelines to support staff responsible for coding presentations and introduce regular and ongoing training for all ED staff**. Improved detection and recording of suicidal crises will then support service developments such as the crisis care concordat (Gibson et al. 2016), which aims to provide better access to mental health support in England. Better data could then be used to inform policy to tackle the implementation gap between policy and services and also provide better data links between primary, secondary, tertiary, and community care.

Implementing efficient, clinically relevant and user-friendly electronic health record systems that facilitate accurate and complete documentation of patient encounters is crucial to developing coding practices within EDs. It is therefore essential to recognise how these systems are used and the time pressures ED staff face. Providing **focused coding training for administrative, medical and mental health staff** that is **supported by ongoing clinical supervision** would ensure consistency and accuracy, leading to better data quality. EDs would also benefit from a **continuous feedback loop that integrates research and practice**. **Collaborative work** with academics, researchers, ED staff, patients and wider stakeholders would help identify issues with coding, address them promptly and implement ongoing training and process enhancements.

2. Socioeconomic Predictors of Crisis and Clinical Pathways Among People Contacting a Mental Health Crisis Line.

Crisis lines are the first mental health service contact point for many people, making them a vital community and public health intervention. Our dataset captured calls to the Cheshire & Wirral Partnership NHS Foundation Trust (CWP) crisis line between August 2020 and August 2021 (Saini et al. 2022). Calls were examined if self-harm, risk to self, or overdose were reported by the caller. This research aimed to examine (1) the referral pathways for people calling the CWP crisis line for self-harm, risk to self, and/or overdose and (2) the socioeconomic factors reported by these callers.

There were 25,106 calls recorded between August 2020 to August 2021. The majority of calls handled by CWP Crisis Line were from women (57.0%), whilst very few callers reported being non-binary (0.1%). The highest proportion of calls were from people aged 50 – 59 years (23.3%), followed by people aged 0 – 18 years (15.9%). The overwhelming majority of calls were from people who indicated they were from white British ethnic backgrounds (74%). Risk to self was noted as the reason for calling for 10.2% of calls (N=2,561). Self-harm made up 7.9% of calls (N=1,983) and overdose was recorded for 435 callers (1.7%).

We found that call handlers were significantly more likely to call 999 or hand over to a practitioner, and less likely to provide advice and guidance, if self-harm, risk to self or overdose was reported. Social issues were found to be significantly associated with all three outcomes: self-harm, risk to self and overdose. The majority of socioeconomic factors explored were significantly associated with risk to self. For example, callers to the CWP crisis line who indicated issues with alcohol, bereavement, COVID, finances, housing, medication, physical health and social factors were significantly more likely to report risk to self.

Implications for Access to Urgent and Emergency Care:

Our findings highlight a number of socioeconomic factors that are significantly associated with callers reporting self-harm, risk to self or overdose. This evidence highlights that issues with alcohol, bereavement, COVID, finances, housing, medication, physical health and social factors may be precipitating factors to self-harm calls, and so these need to be targeted through early identification strategies to improve access and outcomes for people experiencing suicide-related thoughts and behaviours.

Furthermore, our findings provide an understanding of the common referral pathways after contact with the mental health crisis line. We found the majority of callers (63.5%) were given advice and/or guidance and one in eleven callers were handed over to a practitioner. Again, there was also a high level of missing data for type of assistance provided (12.0%). This can be valuable information for service commissioners and funding efforts to ensure accurate and effective targeting of resources.

Since the crisis line service was implemented twelve months ahead of schedule in response to the COVID-19 pandemic, important clinical implications can also be gained in terms of developing the data collected from the service. **Improving the data routinely collected** by call handlers can benefit both services and research into suicide prevention. Mental health crisis coding has been identified as an issue in NHS settings (McCarthy et al., 2021) and the current study highlights that **more specific codes could be implemented to better understand where callers are being signposted** following contact with the crisis line. More data captured on the context of advice given by call handlers, and follow-up data on user outcomes, would aid an understanding what support and signposting services are effective for those reporting self-harm. Services may also benefit from **additional questions related to suicide and self-harm** because suicide prevention is a key focus of the service. For example, there was no data available related to whether the caller was experiencing suicidal thoughts. Since suicidal ideation is a key risk factor for self-harm and suicidal behaviour (Kienhorst, 1995), services and research would benefit from better understanding the symptom characteristics, caller characteristics and referral pathways for those in suicidal crisis.

Conclusion:

To summarise, our findings highlight problems with current ED and crisis line coding practices and data collection. Coding practices across EDs for suicidal crisis are ineffective. This means people experiencing suicide-related thoughts and behaviours cannot be tracked effectively and it is not possible to ensure that they are receiving the care they need. This evidence adds substantially to the need to improve access for urgent and emergency care. There is a need to implement a standardised code for suicidal crisis to ensure accurate and timely data collection and improve access to emergency care and develop clear and standardised coding guidelines to support staff responsible for coding presentations is needed, as well as the introduction of regular and ongoing training for all ED staff.

References

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