

Suicide Prevention in mental health patients: the role of primary care

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LIST OF ABBREVIATIONS

| | |
|----------|--|
| A&E | Accident and Emergency |
| ASPS | American Foundation for Suicide Prevention |
| BME | Black and Ethnic Minority |
| CBT | Cognitive Behavioural Therapy |
| CCG | Clinical Commissioning Group |
| CI | Confidence Interval |
| CIR | Critical Incident Review |
| CMHT | Community Mental Healthcare Team |
| CPN | Community Psychiatric Nurse |
| CPRD | Clinical Practice Research Datalink |
| DH | Department of Health |
| DOH | Department of Health – Washington |
| EAAD | European Alliance Against Depression |
| ED | Emergency Department |
| GMHW | Graduate Mental Health Worker |
| GP | General Practitioner |
| GPRD | General Practice Research Database |
| IASP | International Association of Suicide Prevention |
| IAPT | Improving Access to Psychological Therapies |
| ICD-10 | International Classification of Diseases |
| JCP-MH | Joint Commissioning Panel for Mental Health |
| MHRA/CSM | Medical and Healthcare Products Regulatory Agency/ Committee on Safety of Medicines |
| MHS | Mental Health Service |
| MHW | Mental Health Worker |
| NHS | National Health Service |
| NCI | National Confidential Inquiry |
| NCISH | National Confidential Inquiry into Suicide and Homicide by People with Mental Illness |
| NGOs | Non-Governmental Organisations |
| NICE | National Institute of Health and Clinical Excellence |
| NIMHE | National Institute for Mental Health in England |
| NSPS | National Suicide Prevention Strategy |
| ONS | Office for National Statistics |
| PCT | Primary Care Trust |
| PHE | Public Health England |
| PHQ-9 | Patient Health Questionnaire |
| PTSD | Post-Traumatic Stress Disorder |
| QOF | Quality and Outcome Framework |
| RCGP | Royal College of General Practitioners |

| | |
|-----------|---|
| RCPSYCH | Royal College of Psychiatrists |
| RCT | Randomised Control Trial |
| REC | Research Ethics Committee |
| RESPECT-D | Re-Engineering Systems for Primary Care Treatment of Depression |
| RR | Risk Ratio |
| SPSS | Statistical Package for the Social Sciences |
| SSRI | Selective Serotonin Reuptake Inhibitor |
| TCM | 3-component model |
| UK | United Kingdom |
| USA | United States of America |
| WHO | World Health Organisation |

ABSTRACT

The University Of Manchester

Name: Pooja Saini

Degree Title: PhD

Thesis Title: Suicide Prevention in mental health patients: the role of primary care

Date of Submission: 28th February 2015

Background: Primary care may be a key setting for suicide prevention as many patients visit their General Practitioner (GP) in the weeks leading up to their death. Comparatively little is known about GPs' perspectives on risk assessment, treatment adherence, management of and interactions with suicidal patients prior to the patient's suicide and the services available in primary care for suicide prevention.

Aim: This study aimed to explore primary care data on a clinical sample of individuals who died by suicide and were in recent contact with mental health services in order to: investigate the frequency and nature of general practice consultations; examine risk assessment, treatment adherence and management in primary and secondary care; gain GPs' views on patient non-adherence to treatment and service availability for the management of suicidal patients.

Method: A mixed-methods study design including data from the National Confidential Inquiry on 336 patients who died by suicide, data from 286 patient coroner files, primary care medical notes on 291 patients and 198 semi-structured face-to-face interviews with GPs across the North West of England. We collected data on GPs' views on the treatment and management of patients in the year prior to suicide, suicide prevention generally and local mental health service provision. Quantitative data were analysed using SPSS. Interviews were transcribed verbatim and analysed using a thematic approach.

Results: Overall, 91% of individuals consulted their GP on at least one occasion in the year before suicide. GPs reported concerns about their patient's safety in 27% cases, but only 16% of them thought that the suicide could have been prevented. The overall agreement in the rating of risk between primary and specialist care was poor (overall kappa = 0.127; $p = 0.10$). Non-adherence was reported for 43% of patients. The main reasons for non-adherence were lack of insight, reported side effects and multiple psychiatric diagnoses. We obtained qualitative data from GPs on their interpretations of suicide attempts or self-harm, professional isolation and GP responsibilities when managing suicidal patients.

Limitations: Our findings may not be generalisable to people who died by suicide and were not under the care of specialist services. GPs recruited for the study may have had different views from GPs who have never experienced a patient suicide. Our findings may not be representative of the rest of the UK although many of the issues identified are likely to apply across services.

Conclusion: Suicide prevention in primary care is challenging. Possible strategies for future suicide prevention in general practice include: increasing GP awareness of suicide-related issues and improving training and risk assessment skills; increasing awareness in primary care about why patients may not want treatments offered by focusing on each individual's situational context; removing barriers to accessing therapies and treatments; and, better liaison and collaboration between services to improve patient outcomes.

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.

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Finally I would like to thank all my family and friends for the encouragement and support in commencing the thesis. Thanks to my brother, sister, in-laws, my husband Mohit and my children Akshay, Alisha and Anya for being there with me at all times. I owe the most thanks to my parents for all their love and support throughout my life and helping me reach my goals. I dedicate this thesis to them 'This is for you Mum and Dad!'

THE AUTHOR

I have been a researcher at the National Confidential Inquiry since 2004. For the current thesis, I was responsible for the study design along with Professor Nav Kapur, Dr Kirsten Windfuhr and Dr Anna Pearson. This included the design of the questionnaires, contacting participants, completing sensitive semi-structured interviews, the setting up of appropriate databases, both administrative and statistical, and the running of the studies. I completed majority of the data collection for the study - 76% of primary care case note reviews and 81% of GP interviews. Subsequent analysis was carried out mainly by me and other members of the team with five papers being completed to date. Within the Inquiry itself, I was the Lead Researcher on The Aetiology of Inpatient Suicides Study. I played a major role in data acquisition and analysis for this study and Inquiry reports and disseminated results for presentations and posters at international conferences. Throughout my PhD candidature, I have worked at The University of Manchester and The University of Liverpool as a researcher and have published several papers in peer-reviewed journals (see below), including four articles from the results within this thesis (marked *). I initially registered for my part-time PhD in April 2006 and it was completed in February 2015. I required this time period because I had three separate interruptions for maternity leave.

Papers

Saini, P, While, D, Chantler K, and Kapur N. (to be submitted) Non-adherence to treatment prior to suicide – A mixed methods study.

Saini P, Chantler K, and Kapur N. (2015) GPs' perspectives on primary care consultations for suicidal patients. *Journal of Health and Social Care in the Community*, 1-10. Doi:

10.1111/hsc.12198.*

Saini P, Loke YK, Gamble C, Altman DG, Williamson PR, Kirkham JJ. (2014) Selective reporting bias of harm outcomes within studies: findings from a cohort of systematic reviews. *BMJ*, 349, 1-11, g6501.

Saini P, While D, Windfuhr K, Chantler K, and Kapur N. (2014). Assessment and management of suicide risk in primary care. *Crisis*, 35 (6), 415-25.*

Saini, P, Windfuhr K., Pearson A, *et al.* (2010). General Practitioners views on service availability. *BMC Research Notes*, 3: 246.*

Da Cruz D, Pearson A, **Saini P**, *et al.* (2010). Emergency department contacts prior to suicide in mental health patients. *Emergency Medicine Journal*. 28:467-471. doi:10.1136/emj.2009.081869

Pearson A, **Saini P**, Da Cruz D, *et al.* (2009). Primary care contact prior to suicide in individuals with mental illness. *British Journal of General Practice*, 59(568), 825-32.*

Windfuhr, K., While, D., Hunt, I., Turnbull, P., Lowe, R., Burns, J., Swinson, N., Shaw, J., Appleby, L., Kapur, N., Ashton, A., Stones, P., Hadfield, K., Dud, H., Flynn, S., Rodway, C., Roscoe, A., Bickley, H., Pearson, A., **Saini, P.**, Da Cruz, D. Suicide in juveniles and adolescents in the United Kingdom, (2008) *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 49 (11), 1155-1165.

Published reports

- 1) The National Confidential inquiry into Suicide and Homicide by people with Mental illness. Annual Report: England, Wales, Scotland, 2011
http://www.medicine.manchester.ac.uk/mentalhealth/research/suicide/prevention/nci/inquiryannualreports/Annual_Report_July_2011.pdf
- 2) The National Confidential inquiry into Suicide and Homicide by people with Mental illness. Annual Report: England, Wales 2010.
<http://www.medicine.manchester.ac.uk/mentalhealth/research/suicide/>

prevention/nci/inquiryannualreports/Annual_Report_July_2010.pdf

- 3) The National Confidential inquiry into Suicide and Homicide by people with Mental illness. Annual Report: England, Wales, 2009.

http://www.medicine.manchester.ac.uk/mentalhealth/research/suicide/prevention/nci/inquiryannualreports/Annual_Report_July_2009.pdf

- 4) Appleby *et al.* (2008). Lessons for mental health care in Scotland. London: Department of Health.
- 5) Appleby *et al.* (2006). Avoidable Deaths: Report of the national confidential inquiry into Suicide and Homicide by People with Mental Illness. London: Department of Health.

Poster Presentations

MHS Faculty Showcase, University of Manchester, September 2013

“A GPs Conundrum: A qualitative study exploring GP-suicidal patient interactions and treatment prior to suicide”

MHRN, May 2009, Nottingham

“General Practitioners Views on Service Availability”

Oral Presentations

MHS Faculty Showcase, University of Manchester, July 2014

“Suicide Prevention in mental health patients: the role of primary care”

International Association for Suicide Prevention [IASP], Oslo, September 2013

“A GPs Conundrum: A qualitative study exploring GP-suicidal patient interactions and treatment prior to suicide”

ALTERNATIVE FORMAT

This thesis is presented in an ‘alternative format’, which is a style of thesis that incorporates sections which are suitable for publication, or have already been published. After discussions with my supervisors, I decided to complete the alternative format thesis in order to maximise the outputs from this thesis. The structure of the thesis is as follows. Chapter one presents the introduction of the incidence of suicide in the general population, the risk and protective factors for suicide and the approaches to suicide prevention. Chapter two describes the literature on the role of primary care in suicide prevention. Chapter three outlines the rationale for the methodology used in this thesis and details the methods and data analysis of the study. The order of the papers is based on the pathway of care. Contact was considered first, followed by assessment of risk, then management, service availability, and finally an in depth examination of GPs views. Chapter four presents the results section as the following papers:

Paper 1: Pearson A, Saini P, Da Cruz D, *et al.* (2009) Primary care contact prior to suicide in individuals with mental illness. *British Journal of General Practice*, 59 (568), 826-832.

Paper 2: Saini P, While D, Chantler K, Windfuhr K, Kapur N. (2014) Assessment and management of suicide risk in primary care. *Crisis*, 35 (6): 415-25.

Paper 3: Saini P, While D, Chantler K, Windfuhr K, Kapur N. Non-adherence to treatment prior to suicide: a mixed methods study. (to be submitted)

Paper 4: Saini P, Windfuhr K, Pearson A, *et al.* (2010) Suicide prevention in primary care: General practitioners' views on service availability. *BMC Research Notes*. Vol 3, 246.

Paper 5: Saini P, Chantler K, Kapur N. (2015) GPs’ perspectives on primary care consultations for suicidal patients. *Journal of Health and Social Care*, 1-10.

Doi: 10.1111/hsc.12198

Chapter five presents a discussion of findings, including limitations, clinical implications and recommendations for future research.

AUTHOR CONTRIBUTION

I was the first and main author on four of the five papers and second author on the first of the papers submitted in this thesis. I took a major role in all aspects of the production of the papers including: data acquisition, analysis and writing the paper. The research materials were derived from the original research undertaken after the date I initially registered with this University.

Chapter 1: Introduction

In chapter one I will:

- Discuss the incidence of suicide in the general population
- Outline the risk and protective factors for suicide
- Describe the importance of mental illness, self-harm, suicide ideation and recent adverse life events as predictors of suicide
- Outline approaches to suicide prevention and the relevant policy context

1.1 Suicide in the general population

Suicide is a major public health problem, both internationally and in the UK (World Health Organisation [WHO], 2012). Approximately one million individuals die by suicide each year and the current worldwide rate is 16 per 100,000 population (WHO, 2012). Over the last 45 years suicide rates have increased by 60% and suicide is among the three leading causes of death in those aged 15-44 years in some countries, and the second leading cause of death in 10-24 years old. However, these figures do not include non-fatal suicidal behaviours such as self-harm which are up to 20 times more frequent than completed suicide (WHO, 2012).

Over 90% of the individuals who die by suicide have contact within primary care in the year prior to death (Haste *et al*, 1998; Rodi *et al*, 2010; Luoma *et al*, 2002). Patients who have a mental illness consult in primary care more frequently than all other patients (Haste *et al*, 1998; Rodi *et al*, 2010). More patients who die by suicide have a lifetime diagnosis of mental illness compared to living patients (63% v 28%) and most have a diagnosis of depression (National Confidential Inquiry into Suicide and Homicide [NCISH], 2014). Half of the individuals who die by suicide have previously been referred to psychiatric services but only a quarter have been in contact with mental health services in the year prior to death (NCI, 2006; 2013).

1.1.1 Recording of Suicide

The developing world accounts for the highest numbers of suicide deaths, however, the accuracy of official national suicide figures worldwide is difficult to determine as the WHO statistics are based on the official reports from each respective country. Therefore, the results are dependent on national approaches to case ascertainment and record-keeping. The incidence of suicide may be under-reported due to both religious and social pressures. In

some countries where suicide is illegal one possibility is that suicide deaths go largely unreported thus compounding accurate measurements of suicide rates (International Association for Suicide Prevention [IASP], 2013). Since the data might be unreliable, comparing suicide rates between nations may be statistically unsound. The wide variations between countries probably reflect both differences in death certification and in the actual incidence of suicide (WHO, 2012).

In England, the process of recording suicide is through the coronial system where coroners (either medically or legally qualified) are presented with a death suspected to be due to unnatural causes. The coroner records a verdict of suicide only if the evidence indicates suicidal intent beyond reasonable doubt. The handbook for coroners in England and Wales states that the “suicide should never be presumed but must always be based upon some evidence that the deceased intended to take his own life” (Matthews and Foreman, 1993). An inquest is required to establish the facts before a death can be officially registered. This is a public hearing held in an open court. The coroner is empowered to call witnesses and solicit documents, which may provide evidence to the court. Once the cause of death is established, death certificates can be released and the death is registered at the corresponding local health authority. The death information is sent to the General Register Office and is then sent to the Office for National Statistics (ONS). The ONS is the government department responsible for collecting and publishing official statistics about society and the economy in the UK. Data from the ONS are used to detect trends in mortality. The National Confidential Inquiry (NCI) receives notification from ONS (or equivalent in the other UK countries) of all people who die by suicide or who receive an open verdict at coroner’s inquest and uses these data to identify those in contact with services in the year prior to death.

1.1.1.2 Open verdicts

If there is insufficient evidence that the deceased intended to take his or her life then an open verdict (with an undetermined cause of death) is returned. An example is drowning, which is less easily classified as a suicidal act and has been found to be sometimes missed by official statistics, particularly in females, for whom drowning is a more common method of suicide (Dennis *et al*, 2001; Cooper and Milroy, 1995). Since the early 1990's the number of open verdicts has increased due to there being more 'unexplained' or 'accidental' deaths and more substance-related deaths (Neeleman and Wessely, 1997). In recent years the number of open verdicts has been decreasing in England and Wales – 31.3% to 23.6% (NCI, 2013).

In England and Wales, the majority of open verdicts are actually missed suicides (DH, 2014). In official data open verdicts account for approximately 24% of all possible suicides (NCI, 2013). Therefore it is important to include open verdicts in suicide research to ensure suicide figures are not underestimated. Equally, however, the inclusion of all open verdicts can lead to an over-estimate of the true rate of suicide and some studies therefore exclude open verdicts where suicide was viewed as impossible. For example, Appleby and colleagues (1999) excluded over 10% of open verdicts where the coroner had "clearly indicated a suspended cause of death other than suicide". Taken together, the evidence suggests that it is necessary to include some open verdicts in suicide research to provide accurate figures (Linsley *et al*, 2001; Abed and Baker, 1998).

1.1.1.3 Narrative verdicts

A narrative verdict is a verdict available to coroners in England and Wales following an inquest. This is a factual statement of the circumstances surrounding someone's death, without attributing the cause to an individual. Since 2001, narrative verdicts have been more

widely used, with over 3,000 narrative verdicts returned in 2009. In some cases, current ONS coding rules mean that it can be difficult to code the underlying cause of death as suicide from the information provided in the narrative. For some time, researchers, the ONS and other organisations have been concerned about the impact of narrative verdicts on the quality of the statistics on cause of death (Gunnell, *et al*, 2011; Hill and Cook, 2011). Therefore, a review of current coding practices and the handling of narrative verdicts were undertaken by ONS with particular reference to deaths from intentional self-harm which led to coding changes (ONS, 2011).

In respect of narrative verdicts, an advice note was issued to coroners explaining what information is required in a narrative verdict to help ONS code cause of death using the International Classification of Diseases [ICD]. Also, additional guidance was given to the ONS coding team to improve coding of narrative verdicts. Finally, an update of the ICD-10 software (version 2010) was introduced in the UK, which included a rule change related to coding of self-poisoning deaths particularly those which occurred in the context of drug and alcohol misuse (ONS, 2012).

1.1.2 Suicide rates in England

Suicide is a major health concern in England with the most recent published rates being 11.8 per 100,000 (ONS, 2013). In England, approximately 4,500 individuals die by suicide each year, with a male to female ratio of 3:1. Despite an increase in 2008, there was an overall fall in the number and rate of suicide between 2001 and 2010 for both males and females. There was a fall in male suicide rates in those aged under 25, 25-34, and 65 and over but an increase in those aged 45-64. In females, rates fell in those aged 25-34, 35-44, and 65 and over (NCI 2014). Rising figures for 2008 are assumed in part, to reflect financial pressure arising from

unemployment and debt. There was some variation in suicide rates by region of residence (by NHS England boundaries) at the time of death (average rate 2009-2011; see Table 1). The highest rate was in the North of England at 9.9 per 100,000 population and the lowest in London 8.0 per 100,000 population. In 2012, the suicide rate was highest in the North West region of England at 12.4 deaths per 100,000 population and lowest in London at 8.7 per 100,000 population (NCI, 2013).

1.1.2.1 Age

Although suicide rates in elderly and young people have fallen, those in middle aged men (aged 40-44 years) have risen perhaps reflecting wider socio-economic conditions (ONS, 2012).

Table 1: Number of deaths and age-standardised suicide rate: by gender, deaths registered in 2012 in the regions of England

| | Male | | Female | | Persons | |
|--------------------------|--------|------|--------|------|---------|------|
| | Deaths | Rate | Deaths | Rate | Deaths | Rate |
| England | 3,483 | 16.4 | 1,024 | 4.5 | 4,507 | 10.4 |
| North East | 198 | 19.8 | 48 | 4.4 | 246 | 12.0 |
| North West | 552 | 19.8 | 152 | 5.2 | 704 | 12.4 |
| Yorkshire and The Humber | 381 | 18.2 | 100 | 4.5 | 481 | 11.3 |
| East Midlands | 302 | 16.5 | 72 | 3.6 | 374 | 9.9 |
| West Midlands | 357 | 16.3 | 96 | 4.0 | 453 | 10.1 |
| East of England | 330 | 14.3 | 110 | 4.4 | 440 | 9.3 |
| London | 434 | 13.4 | 142 | 4.2 | 576 | 8.7 |
| South East | 537 | 15.7 | 177 | 4.8 | 714 | 10.2 |
| South West | 392 | 18.1 | 127 | 5.6 | 519 | 11.8 |

Table source: Office for National Statistics

1.1.2.2 Gender

Men are three times more likely to die by suicide than women (NCI, 2013; 2006). A large body of evidence highlights differences in the suicidal behaviour of women and men, with more men dying through suicide and more women engaging in self-harm (Payne *et al*, 2008; Schrijvers *et al*, 2012). Women are also more likely to use social supports available to them and this may deter them from dying by suicide. They may also seek psychiatric or other medical intervention more than men (Oliver *et al*, 2005). However, there has been a marked increase of self-harm by young men and a corresponding reduction in women which has led to the female: male ratio for self-harm becoming more equal over time (Hawton *et al*, 1997; Cantor, 2000; Kapur and Gask, 2006).

Many researchers have attempted to find explanations for why gender is such an important determinant of suicide rates. One common explanation relies on the social constructions of ‘hegemonic masculinity and femininity’. In gender studies, hegemonic masculinity is identifying practices that are classified as the dominant social position of men, and the subordinate social position of women (Connell 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. Hegemonic masculinity refers to the ways in which dominant discourses about what it means to be a man and this is likely to influence men’s behaviour, including help-seeking behaviour. Dominant discourse of masculinity, for example men are ‘strong’ does not lend itself easily to seek support. Vulnerability which is associated with femininity is therefore seen as something to be avoided. In a review of the literature on gender and suicide, male suicide rates were explained in terms of traditional gender roles. Male gender roles tend to emphasize greater

levels of strength, independence, and risk-taking behaviour (Payne *et al*, 2008).

Reinforcement of this gender role often prevents males from seeking help for suicidal feelings and depression (Möller-Leimkühler, 2002).

Numerous other factors have been put forward as the cause of the gender paradox and one of the most important may be 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 and dangerousness (Payne *et al*, 2008) and this is discussed in more detail 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 that they can turn to for support after losing their spouse (Stack, 2000). Another factor closely tied to gender roles is employment status. Males' vulnerability may be heightened during times of unemployment because of gendered expectations that males should provide for themselves and their families (Möller-Leimkühler, 2003).

1.1.2.3 Ethnicity

Rates and risk factors for self-harm and suicide vary amongst Black and Minority ethnic (BME) groups within the UK compared to White groups, including between different age and gender groups (Bhui *et al*, 2007; Cooper *et al*, 2010). Higher rates of self-harm have previously been reported in South Asian females compared to South Asian males or White females (Cooper *et al*, 2006; Bhui *et al*, 2007). In a more recent study based on the Multicentre Study of Self-harm in England, rates of self-harm were highest in young Black females (pooled rate ratio for Black females aged 16–34 years compared with White females 1.70, 95% CI 1.5–2.0) (Cooper *et al*, 2010). BME groups experience socioeconomic

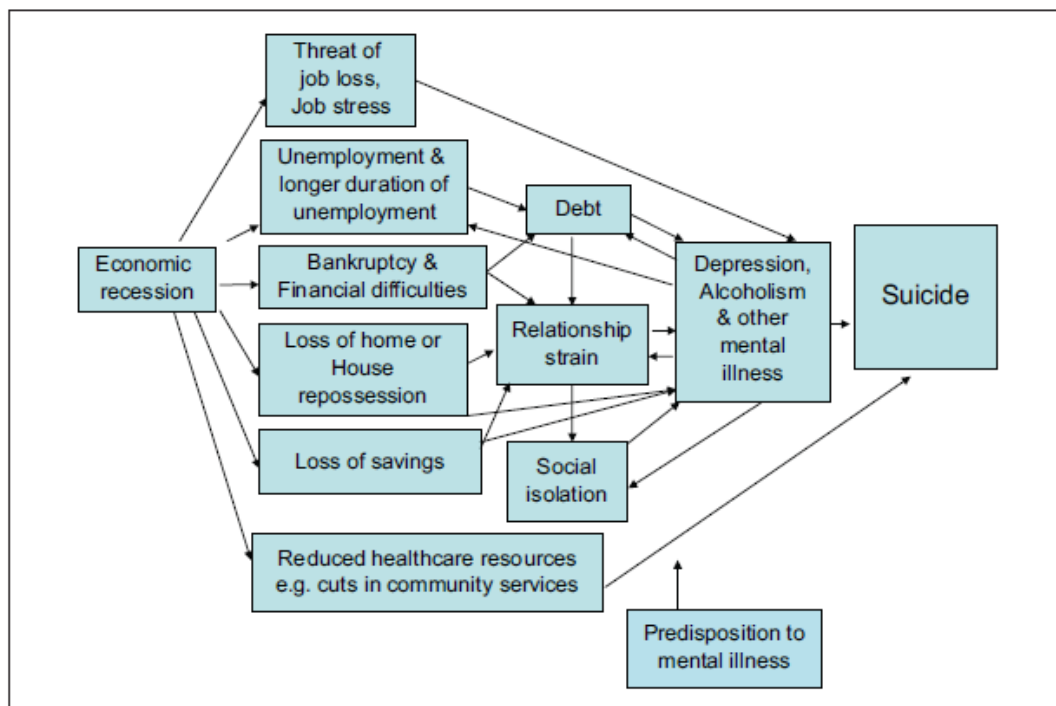
inequalities which have been linked to subsequent inequalities in health (Nazroo *et al*, 2007), and racial/ethnic discrimination has a strong association with common mental disorders (Bhugra and Arya, 2005). Little is known about risk factors for repetition of self-harm in BME groups that can be used to facilitate appropriate clinical management and suicide prevention measures (Kapur *et al*, 2006). Only 1% of patients from the clinical population data collected by the NCI are recorded to be from a BME group (NCI 2011) although there are higher numbers in specific groups when reporting on trends over a 10-year period (2002-2012). These include mental health patients who died from a sudden unexplained death (12%; 42 BME patients out of a total sample of 353 patients) and those who died within 24 hours of restraint (45%; 5 BME patients out of a total sample of 11 patients) (NCI, 2014). However the numbers of patients in these groups were small and may explain the difficulty in reporting on BME groups for suicide and self-harm.

1.1.2.4 Other factors

Most people who die by suicide have psychiatric disorders, mood disorders, substance-related, anxiety, psychotic, and personality disorders, with comorbidity being common (NCI, 2013; 2006). Previous self-harm is a major risk factor (Cooper *et al*, 2005). Suicide rates also vary with employment status (Barr, 2012; NCI, 2006). In an analysis of suicide trends in the United Kingdom, which included the 2008 economic recession, each annual 10% increase in the number of unemployed men was associated with a 1.4% increase in male suicides and no association was found for women (Barr *et al*, 2012). Additional studies from around the world have shown strong evidence that rising unemployment in times of economic recession is associated with a marked increase, particularly in male suicides (Chang *et al*, 2013). Other important effects include those exerted by financial loss, bankruptcy and home repossession (Kondilis *et al*, 2013; Paul and Moser, 2009; Haw *et al*, 2014; see figure 1). It is proposed

these factors may lead directly or indirectly to mental health problems such as depression, anxiety and overuse of alcohol which then contribute to suicidal behaviour. Countries with active labour market programmes and sustained welfare spending during recessions have less marked increases in suicide rates than those that cut spending on welfare and job-search initiatives for the unemployed. Good primary care and mental health services are needed to cope with increased demand in times of economic recession but some governments have in fact reduced healthcare spending as an austerity measure (Haw *et al*, 2014).

Figure 1: Possible mechanisms linking recession with suicide (Haw *et al*, 2014)

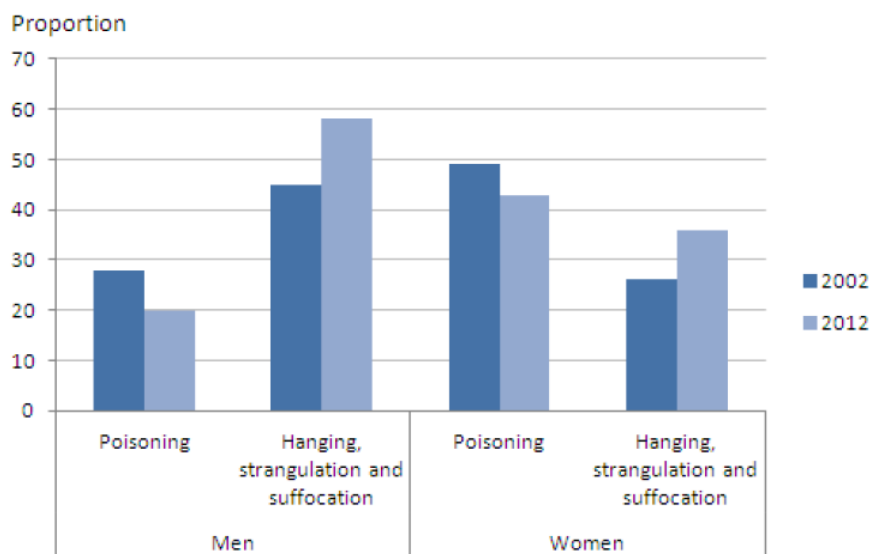


1.1.3 Methods of Suicide

While numerous factors contribute to the choice of a suicide method, societal patterns of suicide may be understood from basic concepts such as the social acceptability of the method (i.e. culture and tradition) and its availability (i.e. opportunity) (Stack, 2005). Methods used vary with access and availability but also with gender and age (See figure 2; ONS, 2014)

(NCI, 2013; 2006; Varnik *et al*, 2008, Windfuhr *et al*, 2010). The report by the NCI (2013) showed that the most common methods of suicide were by hanging or strangulation (44%), self-poisoning (23%), and jumping from a height or in front of a moving vehicle (10%). Less frequent methods were drowning (5%), carbon monoxide (4%), cutting or stabbing (3%), and firearms (2%). Over the period 2001 to 2010 there were changes in method of suicide. Suicide deaths by hanging increased, although they have fallen since the peak in 2008. Deaths by self-poisoning, drowning and carbon monoxide decreased and those by jumping did not change.

Figure 2: Proportion of suicide deaths: method and gender, deaths registered in 2002 & 2012 United Kingdom (ONS, 2014)



Source: Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

Men are more likely to use violent methods such as hanging and shooting; women tend to use either prescribed medication or over-the-counter medications such as paracetamol (Gunnell, *et al*, 2000). Varnik and colleagues (2008) studied suicide rates, trends and methods among

youths aged 15 to 24 years in 15 European countries. The findings showed a very high proportion of hanging in youths, which is a difficult method to restrict. The fall in carbon monoxide suicides is due to the introduction of catalytic converters in 1993 and firearm suicides are low due to the unavailability of guns in the UK.

Methods have also been associated with factors such as suicide hot spots [geographical areas frequently used as a location for suicide (National Institute for Mental Health in England; NIMHE, 2006)]. Many well-known locations seem to act as magnets, drawing suicidal individuals to them. In the UK, Beachy Head cliffs in Sussex and the Clifton Suspension Bridge in Bristol are notorious as suicide sites. However, there are also many less well-known locations, and every local area will have sites and structures that lend themselves to suicide attempts. In many cases, the place itself provides the means of suicide (NIMHE, 2006).

Few studies have examined the characteristics of people with mental illness in relation to suicide methods (Hunt et al, 2010; Kelly *et al*, 2004; Keyenbuhl *et al*, 2002). Those that have investigated methods with regard to psychiatric morbidity have generally focused on one particular diagnostic group such as schizophrenia (Kreyenbuhl *et al*, 2002; Kelly *et al*, 2004) and found that individuals may use more dangerous methods than the general population. Awareness of the methods of suicide employed in those with mental illness may contribute to prevention strategies in this high risk group. However, given that 25% of people who die by suicide are in contact with mental health services (NCI, 2013), there is a need for broadly based population initiatives, restricting access to means more generally, and measures to improve population awareness of potential benefits of help seeking in times of crisis.

1.1.4 Risk and protective factors for suicide

Risk factors are associated with an increased risk of suicide. That is, people with known risk factors being at greater potential for suicidal behaviour (see box 1). Protective factors, on the other hand, reduce the likelihood of suicide (see Box 2) as they are reported to enhance resilience and may serve to counterbalance risk factors. Risk and protective factors may be environmental, socio-cultural or biopsychosocial in nature (Maris, 2002; Hawton and Van Heeringen, 2009). Risk factors for all age groups are similar, although particular clinical risk factors may be more important in younger populations (NCI, 2012), such as aggressive or disruptive behaviours and a history of physical and sexual abuse (DH, 2002).

A review by Fuller-Thomson and colleagues (2012) reported that prevalence of suicidal ideation was nearly five times higher in abused men and women compared with their non-abused counterparts. Other population-based studies have reported an association between childhood sexual and physical abuse and suicidal behaviours, including ideation and attempts (Afifi *et al*, 2009; Brezo *et al*, 2008; Bruffaerts *et al*, 2010; Fergusson *et al*, 2008; Joiner *et al*, 2007). These studies showed that neglect, physical abuse, and sexual abuse were each associated with increased levels of suicidal ideation, intent, planning, and suicide attempts. Several studies using longitudinal data appeared to support a causal relationship between exposure to childhood sexual and/or physical abuse and later suicide ideation and attempts during adulthood (Brezon *et al*, 2008; Fergusson *et al*, 2008).

Box 1: Risk Factors for Suicide

Environmental Risk Factors

- Job or financial loss
- Relationship or social loss
- Easy access to lethal means
- Local clusters of suicide that have a contagious influence

Socio-cultural Risk Factors

- Lack of social support and sense of isolation
- Stigma associated with help-seeking behaviour
- Barriers to accessing health care, especially mental health and substance abuse treatment
- Certain cultural and religious beliefs (for instance, the belief that suicide is a noble resolution of a personal dilemma)
- Exposure to, including through the media, and influence of others who have died by suicide

Biopsychosocial Risk Factors

- Mental disorders, particularly mood disorders, schizophrenia, anxiety disorders and certain personality disorders
- Alcohol and other substance use disorders
- Hopelessness
- Impulsive and/or aggressive tendencies
- History of trauma or abuse
- Some major physical illnesses
- Previous suicide attempt
- Family history of suicide

Box 2: Protective Factors for Suicide

- Effective clinical care for mental, physical and substance use disorders
- Easy access to a variety of clinical interventions and support for help-seeking
- Restricted access to highly lethal means of suicide
- Strong connections to family and community support
- Support through ongoing medical and mental health care relationships
- Skills in problem solving, conflict resolution and nonviolent handling of disputes
- Cultural and religious beliefs that discourage suicide and support self Preservation

The literature suggests that five factors that potentially confound an association with suicidal behaviours are: (1) adverse childhood conditions; (2) adult socioeconomic factors; (3) adult health risk and protective behaviours; (4) psychosocial stressors and chronic illnesses; and (5) mental health. Fuller-Thomson and colleagues (2012) reported that after controlling for these five clusters that childhood physical abuse was significantly associated with suicidal ideation. Their findings suggest that childhood physical abuse is independently associated with suicidal ideation and highlights the importance of providing preventative treatment to childhood abuse survivors (Fuller-Thomson *et al*, 2012).

Family history of suicidal behaviour is also important, as are upbringing and exposure to suicidal behaviour by others. Attempted and completed suicide among first-degree relatives of suicide victims have been described in several retrospective studies of adolescents and young adults who died by suicide (Brent and Mann, 2005; Runeson and Asberg, 2003). In previous reports, 38% of young suicide victims had a parent or sibling who attempted suicide and a family history of completed suicide was found in 5%. Suicide in family members appears to be a predisposing factor for suicide irrespective of psychopathology. This may be related to genetic risk, social learning, and of course the psychosocial stress related to experiencing a death by suicide in the family (Petersen *et al*, 2014).

Probably the two most important risk factors for suicide are previous self-harm and mental illness and these are discussed in more detail below but many previous studies have investigated the role of individual risk factors. In the general population, suicide rates may be associated with physical illness (Webb *et al*, 2012; DH, 2012). Many people living with long-term conditions - including physical illness, disability and chronic pain – experience periods of depression that may be undiagnosed and untreated (DH, 2012). Disadvantage and

barriers in society for disabled people can lead to feelings of hopelessness and people with one long-term condition are two to three times more likely to develop depression than the rest of the general population (DH, 2012). Routine assessment for depression as part of personalised care planning for people with long-term conditions have been reported to help reduce inequalities and help people to have a better quality of life as physical health problems are often poorly treated in people with mental disorders, leading to reduced life expectancy (Parks, 2006; De Hert *et al*, 2011). Additionally, physical health problems may be used to mask psychological health problems (Grace and Christensen, 2007).

Although many studies have investigated risk factors for suicide in general populations, others have examined risk factors for suicide among clinical populations. One rationale for a clinical focus is that there may be opportunities for services to intervene and treat patients who have contact with health services prior to death (NCI, 2013; 2012; 2010, 2006; 2001; Appleby *et al*, 1999). The findings are reasonably consistent that the likelihood of a person taking their own life depends on several factors (DH, 2012) including:

- gender – males are three times as likely to take their own life as females;
- age – people aged 35-49 now have the highest suicide rate;
- mental illness;
- the treatment and care they receive after making a suicide attempt;
- physically disabling or painful illnesses including chronic pain;
- alcohol and drug misuse.

However, the role of economic factors is less clear cut in people with psychiatric illness than in the general population. Research shows an increased suicide mortality associated with unemployment in the general population but there is little or an inverse association between

unemployment and suicide in people with psychiatric illness (Hunt *et al*, 2013; Agerbo *et al*, 2005). This suggests the need to consider the effects when studying the causal pathway from unemployment and psychiatric illness to suicide.

1.1.5 Role of mental illness

Mental illness touches on the lives of everyone and many people will experience mental ill-health at some time in their lives or will know someone affected by such illness. Mental illness accounts for 28% of the years lived with a disability in most world regions, and for 10.5% of the total global burden of disease (Sayce and Morris, 1999). The great majority of people who experience a mental illness do not die by suicide. However, of those who die from suicide, more than 90% may have a diagnosable mental disorder (Harris and Barraclough, 1994).

People who die by suicide are frequently experiencing undiagnosed, undertreated, or untreated depression (DH, 2012; NCI, 2013; Mortensen *et al*, 2000; Harris and Barraclough, 1997). An estimated 2-15% of persons who have been diagnosed with major depression die by suicide and suicide risk is highest in depressed individuals who feel hopeless about the future, those who have just been discharged from the hospital, those who have a family history of suicide and those who have made a suicide attempt in the past (NCI, 2013). An estimated 3-20% of persons who have been diagnosed with bipolar disorder die by suicide. Hopelessness, recent hospital discharge, family history, and prior suicide attempts all raise the risk of suicide in these individuals. An estimated 6-15% of persons diagnosed with schizophrenia die by suicide. Suicide is the leading cause of premature death in those diagnosed with schizophrenia. Between 75 and 95% of these individuals are male. Also at high risk are individuals who suffer from depression which is comorbid with another

psychiatric disorder. Specifically, the presence of substance abuse, anxiety disorders, schizophrenia and bipolar disorder put those with depression at even greater risk for suicide. People with personality disorders are approximately three times more likely to die by suicide than those without and between 25 to 50% of these individuals also has a substance abuse disorder or major depressive disorder.

In England and Wales there are approximately 4500 deaths by suicide annually. The characteristics of patients with psychiatric diagnosis are reviewed at the National Confidential Inquiry into Suicide, which collects detailed information on people who have died within 12 months of psychiatric contact. High rates of suicide were particularly associated with acute episodes of illness, recent hospital discharge, social factors such as living alone and clinical features such as substance misuse and non-fatal self-harm (NCI, 2014). Mental disorder is strongly associated with suicide but the risks and therefore the approaches to prevention may differ between different groups of patients. Other than mental illness the other significant risk factor is past suicidal behaviour.

1.1.6 Self-harm and previous suicide attempts

‘Self-harm’ is defined as ‘*intentional self-injury or self-poisoning, irrespective of ... motivation or degree of suicidal intent*’, and encompasses both suicide attempts and acts with other motives or intentions (Hawton *et al*, 2013). Other terms used to describe aspects of suicidal behaviour are parasuicide, attempted suicide and overdose. Previous self-harm is viewed as probably the strongest predictor of suicide (Cooper *et al*, 2005; Hawton *et al*, 1998; Sakinofsky, 2000; Foster *et al*, 1997; Neeleman, 2001). Previous research has shown a decrease in attempted suicide or self-harm since 2003 but there is a suggestion of a recent increase (Bergen *et al*, 2012; Bickley *et al*, 2013). Self-harm is a major public health

problem, accounting for over 170,000 hospital attendances per year in the UK. For individuals who attend for medical help in the year following self-harm, about 1% of people will die by suicide – 100 times more than the general population; and, in the subsequent 5 years, 1 in 25 patients presenting to hospital for self-harm will kill themselves (Carroll, Metcalfe and Gunnell, 2014).

Although the risk factors have been identified and the public health significance of suicide and self-harm is clear, the clinical management of suicide risk is complex. Recently, studies have recommended improving the care of service users who self-harm through assessments and better follow-up care following their initial presentation in order to reduce future attempts and potential suicides (Kapur *et al*, 2013a & 2013b; Hunter *et al*, 2013). Where swift follow-up care was not provided, this reinforced hopelessness and promoted disengagement from services (Hunter *et al*, 2013). In order to maintain benefits established during consultations and the patient's hospital experience, follow-up needs to be timely and integrated with assessment.

1.1.7 Suicidal ideation

Suicidal ideation is generally understood as having thoughts of wanting to end one's own life. Traditionally, clinicians view severity of suicide risk along a continuum, ranging from suicidal ideation alone (relatively less severe) to suicidal ideation with a plan (highest severity), the latter of which is a significant risk factor for suicide attempts. Suicidal ideation itself, whether over a lifetime, the prior year, or the past month, is remarkably common and thoughts of suicide might be the first step in a pathway that culminates in completed suicide (Thomas *et al*, 2002). Studies have demonstrated an association between suicidal ideation and psychiatric illness as individuals with suicidal thoughts following discharge from psychiatric

inpatient care are almost twice as likely to die by suicide as those without such thoughts (OR 1.9, 95% CI 1.0-3.5) (NCI, 2013).

1.1.8 Recent adverse life events

Adversity can be acute (life events) or chronic, and some life events have both acute and chronic components. They may be proximal or distal to suicide. A proximal risk factor is a risk factor that represents an immediate vulnerability for a particular condition or event. Sometimes proximal risk factors precipitate an event. For example, an intensely stressful life experience, such as a divorce or loss of a job, is a proximal risk factor for a suicide attempt. This type of experience often occurs immediately prior to a suicide attempt. In contrast, distal risk factors represent background characteristics that may put someone at risk for an event or condition at some point in his/her lifetime (not immediately). Over the past 50 years, psychological autopsy studies have shown that nearly all adults who die by suicide have experienced at least one adverse life event within one year of death (Cooper *et al*, 2002; Cheng *et al*, 2000, Li *et al*, 2007; Gururaj *et al*, 2004; Yang *et al*, 2005). Controlled studies have revealed specific events that increase suicide risk with interpersonal factors, such as family breakdown, domestic violence, childhood sexual abuse and conflict including divorce posing the greatest risk together with family mental health problems.

For many people, it is the combination of factors which is important rather than one single factor. However, some of the risks are independent of mental illness and therefore may be 'missed' by health professionals who perceive mental illness, self-harm and suicidal ideation as the most prevalent risk factors for suicide (Foster, 2011). The initial risk factor (that may be independent to the three main factors), if not identified, could therefore result in the patient developing one of these three major factors.

1.1.9 Section summary

- Suicide is a major public health problem
- High rates of suicide are particularly associated with acute episodes of illness, recent hospital discharge, social factors such as living alone and clinical features such as substance misuse and non-fatal self-harm
- Mental illness, particularly depression, is strongly associated with suicide and is mostly managed in primary care

1.2 General Approaches to Suicide Prevention

Suicide is a major health problem that requires attention from national and international health organisations. Suicides are not inevitable and there are many ways in which health professionals, communities, individuals and society as a whole can help to prevent suicides. The latest suicide prevention strategy in England highlights the six actions and key areas where suicide prevention should be focussed (see Figure 3). Most suicidal individuals give warning signs or signals of their intentions and the best way to prevent suicide is to recognise these warning signs and know how to respond to them. The strategy highlights that everyone can play a role in suicide prevention by pointing out the alternatives, showing individuals that someone cares and by getting a healthcare professional involved. Over the years countries around the world have developed initiatives for the prevention of suicide in order to gain knowledge and aid professionals and society as a whole to recognise and help individuals who may be at risk of suicide.

Figure 3 Six areas of actions of the National Suicide Prevention Strategy, 2012

| | | |
|--|--|---|
| <p>Reduce the risk of suicide in high-risk groups</p> <ul style="list-style-type: none"> • Young and middle aged men • People in the care of mental health services, including inpatients • People with a history of self-harm • People in contact with the criminal justice system • Specific occupational groups, such as doctors, nurses, veterinary workers, farmers and agricultural workers | <p>Tailor approaches to improve mental health in specific groups</p> <ul style="list-style-type: none"> • Children and young people, (looked after children, care leavers, children and young people in the youth justice system) • Survivors of abuse or violence, including sexual abuse • Veterans • People living with long-term physical health conditions • People who are especially vulnerable due to social and economic circumstances • People who misuse drugs or alcohol • Lesbian, gay, bisexual, and transgender people • Black and ethnic minority groups and asylum seekers | <p>Reduce access to the means of suicide</p> <ul style="list-style-type: none"> • Hanging and strangulation in psychiatric inpatient and criminal justice settings • Self-poisoning • Those in high risk locations • Those on the rail and underground networks |
| <p>Provide better information and support to those bereaved or affected by suicide</p> <ul style="list-style-type: none"> • Provide effective and timely support for families bereaved or affected by suicide • Have in place effective local responses to the aftermath of a suicide • Provide information and support for families, friends and colleagues who are concerned about someone who may be at risk of suicide | <p>Support the media in delivering sensitive approaches to suicide and suicidal behaviour</p> <ul style="list-style-type: none"> • Promoting the responsible reporting and portrayal of suicide and suicidal behaviour in the media • Continuing to support the internet industry to remove content that encourages suicide and provide ready access to suicide prevention services | <p>Support research, data collection and monitoring</p> <ul style="list-style-type: none"> • The DH will continue to support high-quality research on suicide, suicide prevention and self-harm through the NIHR and the Policy Research Programme • Reliable, timely and accurate suicide statistics are essential to suicide prevention • Reflecting the continuing focus on suicide prevention, the Public Health Outcomes Framework includes the suicide rate as an indicator |

1.2.1 Reduce the risk of suicide in high-risk groups

The following high-risk groups have been identified as priorities for prevention:

- To reduce the risk of suicide in young and elderly men in different settings, especially primary care, to be particularly alert to the signs of suicidal behaviour.
- The treatment of mental and physical health issues needs to be equally important in the context of suicide prevention as this will have implications for the management of care for people who self-harm, and for effective 24 hour responses to mental health crisis.
- There needs to be accessible, high quality mental health services as this is fundamental to reducing the suicide risk in people of all ages with mental health problems.
- Emergency departments and primary care have important roles in the care of people who self-harm, particularly with regards to good communication and follow-up by both services.
- There is a need for continuing to improve mental health outcomes for people in contact with the criminal justice system as this will contribute to suicide prevention, as will ongoing delivery to safer custody.
- Suicide risk by occupational groups may vary nationally and even locally and it is vital that the statutory sector and local agencies are alert to this, and adapt their suicide prevention interventions accordingly.

1.2.2 Tailor approaches to improve mental health in specific groups

Another way to reduce suicide is by improving the mental health of the population as a whole. The measures set out in both *No health Without Mental Health* (DH, 2011) and *Healthy Lives, Healthy People* (DH, 2010) support a general reduction in suicides by

tailoring approaches for the specific groups. *No health Without Mental Health* (DH, 2011) outlines a range of evidence-based treatments and interventions to prevent people of all ages from developing mental health problems and where possible early intervention, developing and supporting speedy and sustained recovery is recommended. *Healthy Lives, Healthy People* (DH, 2010) gives a new enhanced role to local government and local partnerships in delivering improved public health outcomes, including local responsibility for coordinating and implementing work on suicide prevention. Since April 2013, this has become an integral part of local authorities' new responsibilities for leading on local public health and health improvement.

Tailored approaches have been developed for the following groups with regards to mental health for suicide risk to be reduced:

- Children and young people have an important place in the strategy and schools, social care and the youth justice system will be highlighting problems such as bullying, low body image and lack of self-esteem as these all have an important contribution to make to suicide prevention. There will be measures for families and carers to keep their children safe online and a call for future research on children and young people and self-harm;
- There will be a requirement for timely identification and referral of women and children experiencing abuse or violence, so that they benefit from appropriate support in order to reduce suicide risk;
- There is a commitment to improving mental health support for service and ex-service personnel through the Military Covenant. Routine assessment of depression as part of personalised care planning for people with long-term conditions to help reduce inequalities and aid people to have a better quality of life;

- One of the most important risk factors for suicide is depression and therefore the early identification and prompt, effective treatment of depression has an important role to play in preventing suicide across the whole population;
- Given the links between mental ill-health and social factors like unemployment, debt, social isolation, family breakdown and bereavement, the ability of front-line agencies to identify and support (or signpost and support) people who may be at risk of developing mental health problems is important for suicide prevention;
- Improved measures that reduce drug and alcohol dependency are critical to reducing suicide;
- Raising awareness of the high rates of mental distress, substance misuse, suicidal behaviour or ideation and increased risk of self-harm amongst lesbian, gay, bisexual, and transgender people among staff in health and care services, education and the voluntary sector;
- Community initiatives that may bridge the gap between statutory services and Black, Asian and ethnic minority groups, and may help in tackling inequalities in health and access to services.

1.2.3 Reduce access to the means of suicide

Restricting access to the means of suicide is an important component of comprehensive strategies for suicide prevention. The following suicide methods require ongoing attention for reducing suicide:

- Continued vigilance by mental health service providers to help identify and remove potential ligature points and safer cells complement care for at-risk prisoners;
- Safe prescribing to restrict access to some toxic drugs;

- To improve prevention efforts, better knowledge of national, regional and local suicide patterns is vital, and better understanding of underlying mechanisms is crucial. Identifying and monitoring suicide hotspots and the characteristics of the individuals, who use these areas as a means to die by suicide, may be an important suicide prevention measure (Windfuhr *et al*, 2010);
- British Transport Police, London Underground Limited, Network Rail, Samaritans and partners are working together to reduce suicide on the rail and underground networks.

1.2.4 Provide better information and support to those bereaved or affected by suicide

Every suicide affects families, friends and colleagues and can have a profound effect on the local community. This action recommends the following approaches to target this group:

- For families bereaved by suicide, effective and timely emotional and practical support is essential to help the grieving process and support recovery. GPs should be vigilant to the potential vulnerability of family members when someone dies by suicide;
- Post-suicide community-level interventions to prevent copycat and suicide clusters that can be adapted for use in schools, workplaces, health and care settings;
- Appropriate contact information for people under the care of health or social services for individuals, families, carers and friends.

1.2.5 Support the media in delivering sensitive approaches to suicide and suicidal behaviour

Support is needed from the media as they can have a significant influence on behaviours and attitudes.

- Information about sources of support when reporting suicide can be provided by local, regional and national newspapers and other media outlets;
- The government will continue to work with the internet industry through the UK Council for Child Internet Safety to create a safer online environment for children and young people. The aim is give parents the tools to ensure that their children are not accessing harmful suicide-related content online.

1.2.6 Support research, data collection and monitoring

The Department of Health will continue to support high-quality research on suicide, suicide prevention and self-harm through the National Institute for Health Research and the Policy Research Programme. Most of the work will be carried out locally for each region and will be completed alongside other Government health policies, such as *No health Without Mental Health* (DH, 2011) and *Healthy Lives, Healthy People* (DH, 2010).

In England (DH, 2012; The National Suicide Prevention Strategy [NSPS], 2002), the US (The American Foundation for Suicide Prevention [AFSP], 2012; The National Strategy for Suicide Prevention [NSSP], 2012) and Australia (The National Suicide Prevention Strategy, 2000) suicide prevention policies have been developed. Since 1999, suicide prevention has been an important part of the policies published by the Department of Health in England (See Figure 4). The latest policy ‘Preventing Suicide in England’ (DH, 2012) reinforces the actions and goals set since 1999. The aim of the policy is to provide an approach to suicide prevention that recognises the contributions that can be made across all sectors of society.

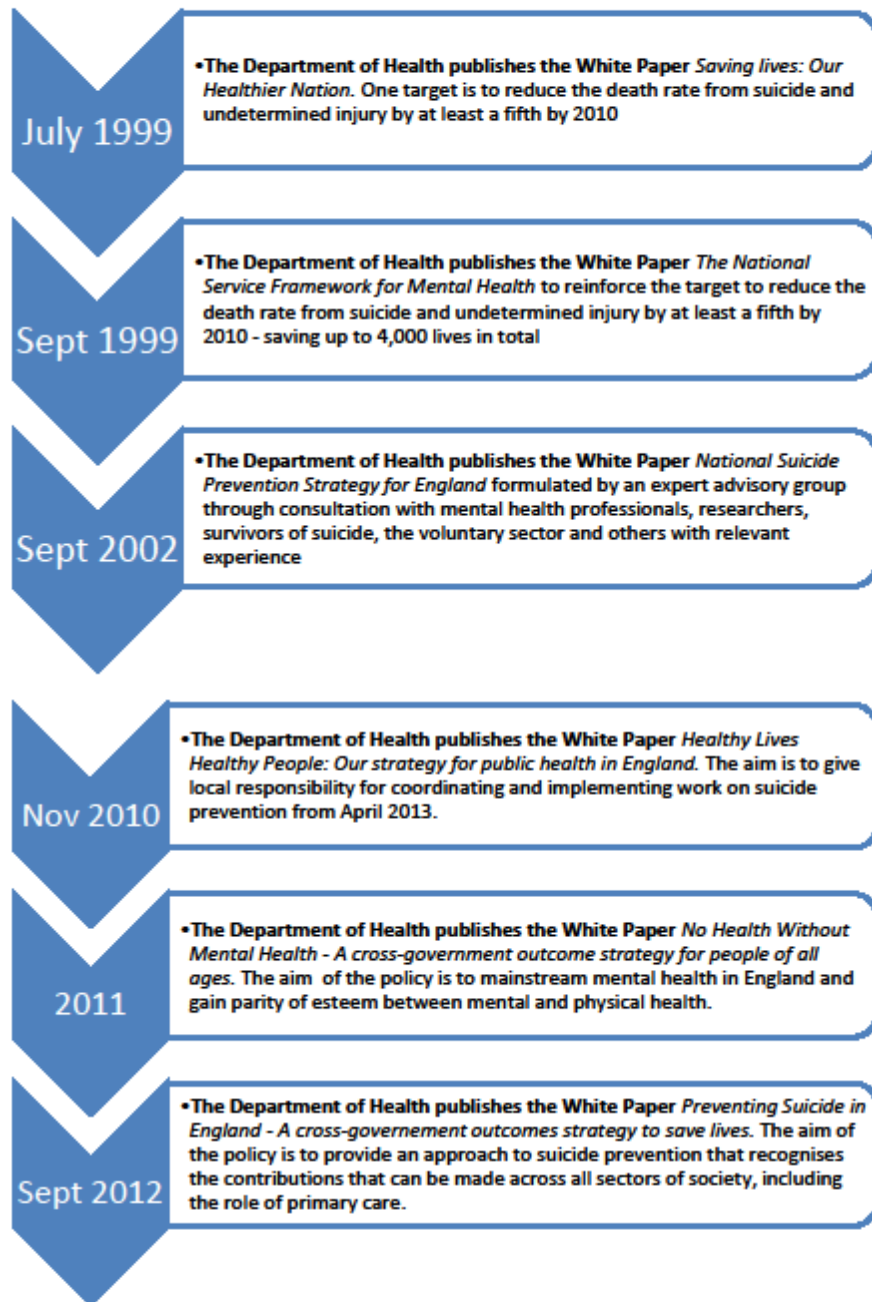
1.3 Suicide Prevention: The importance of the GPs role

The most recent suicide prevention strategy (DH, 2012) makes more explicit reference to the importance of the role of primary care in preventing suicide as GPs are often the first health professional contact for individuals who are experiencing distress or suicidal thoughts (DH, 2012). Additionally, the fact that mental illness is predominantly managed in primary care and the high prevalence of mental illness in individuals who die by suicide highlight the importance of the role of GPs in recognising individuals who may be at risk of suicide. The management of suicidal patients by GPs has become a key component of suicide prevention policies as a substantial proportion of suicide patients have visited their GPs within weeks or months of their death (Rodi *et al*, 2010; Luoma, *et al*, 2002). GPs have the opportunity to intervene and provide treatment to patients who present in primary care consultations (NCISH, 2014). GPs are likely to require specialist training/knowledge in order to identify patients who may be at greater risk of suicide and can then provide the vital link between patients and mental health services when additional treatment is required. GPs act as the gatekeepers between patients and mental health services. Further exploration of the consultation behaviour of patients managed by primary care will inform targeted suicide prevention strategies. The next chapter will report on the research literature that has been conducted to date in primary care for suicide prevention.

1.4 Section summary

- Suicides are not inevitable and there are many ways in which health professionals, communities, individuals and society as a whole can help in prevention
- Primary care can play a fundamental role in suicide prevention as the majority of patients consult with their GPs prior to death
- Primary care is often the entry point for those in distress
- GPs are likely to require specialist training/knowledge in order to identify patients who may be at greater risk of suicide
- GPs can provide the vital link between patients and mental health services when additional treatment is required

Figure 4: Suicide Prevention Policies



Chapter 2: Literature Review: Suicide and Primary care

In chapter two I will describe and provide an analysis of the literature with the following aims:

- To examine the consultation behaviour of patients in primary care prior to suicide
- To identify the assessment and management of suicidal risk in primary care
- To outline the referral decisions and processes between primary care and mental health services for patients at risk of suicide
- To outline the context and challenges experienced when managing suicidal patients
- To identify and critique the available research literature on the role of primary care in suicide prevention
- To identify gaps in the literature in order to inform the research questions and aims for the current study

2.1 Literature search strategy

2.1.1 Eligibility Criteria

Studies that focused on consultation rates in primary care prior to suicide, management of suicidal patients in primary care, education of GPs for recognising and treating depression, and risk assessment training were included. Studies were limited to those carried out in primary care settings. We had broad inclusion criteria and were interested in individuals who had died by suicide, attempted suicide or had suicidal ideation. Data regarding non-fatal suicidal behaviours were included because individuals who are at high risk of death by suicide may provide important information from the patient's perspective. Although it may have been desirable to limit this review to UK studies in order to increase the review's relevance to interventions in the UK health care system, comparatively few studies containing relevant data were available. Four main types of studies were included in this review: retrospective case record reviews, psychological autopsy studies (which aim to identify the antecedents of death using information from a variety of sources), case control studies, and literature or systematic reviews.

Record review studies used medical examiners' or coroners' reports as the sole source of data. Studies with record review plus supplemental data included studies that used medical examiners' reports as the primary source of data but supplemented this data with information from a number of other sources. Additional sources of information included interviews with GPs or mental health professionals, GP or mental health provider case notes, and pre-existing databases of health records. Psychological autopsy studies may offer the most direct technique currently available for examining the relationship between particular antecedents and suicide. In this study we designated studies in this category if the investigators

interviewed at least one individual who had a personal relationship with the deceased as a primary source of data.

The review was limited to English language studies as we had no resources available for translation. Literature published before 1980 was excluded as changes in mental health service provision in the prevailing period would mean that the findings would be less relevant to current practice. For quality control, only peer-reviewed studies were included.

2.1.2 Search Strategy

I identified studies on suicide and primary care primarily through electronic databases accessed through the University of Manchester. These were: Medline (years 1980-2014), EMBASE (1980-2014), PsycINFO (1985-2014), Web of Science (1956-2014) and Science Direct (1980-2014). I also used the internet search engine 'Google Scholar'. Further, reference lists from pertinent manuscripts were checked to find articles not listed in the electronic databases. Medical Subject Headings (MeSH terms) and key search words included 'suicide', 'suicid\$', and 'suicide' combined with 'mental health', 'general practice', 'primary care', 'secondary care', 'patient', 'suicide prevention', 'mental illness', 'contact with services or healthcare', 'mental health services'. Records of the number of results per search term were recorded. Seven-hundred and fifty-seven articles were identified through this method. Following the search strategy, identified studies were assessed for inclusion. Initially I screened all identified titles and then the abstracts of selected titles for potential inclusion. Following this, full copies of the studies identified as potentially relevant were read and an assessment of whether they met the inclusion criteria. There were 22 key articles focussing on suicide in primary care which are discussed in detail below. To add context I

have also included findings from the more general primary care and mental health literature where this was relevant.

Figure 5: Flow diagram of the study selection

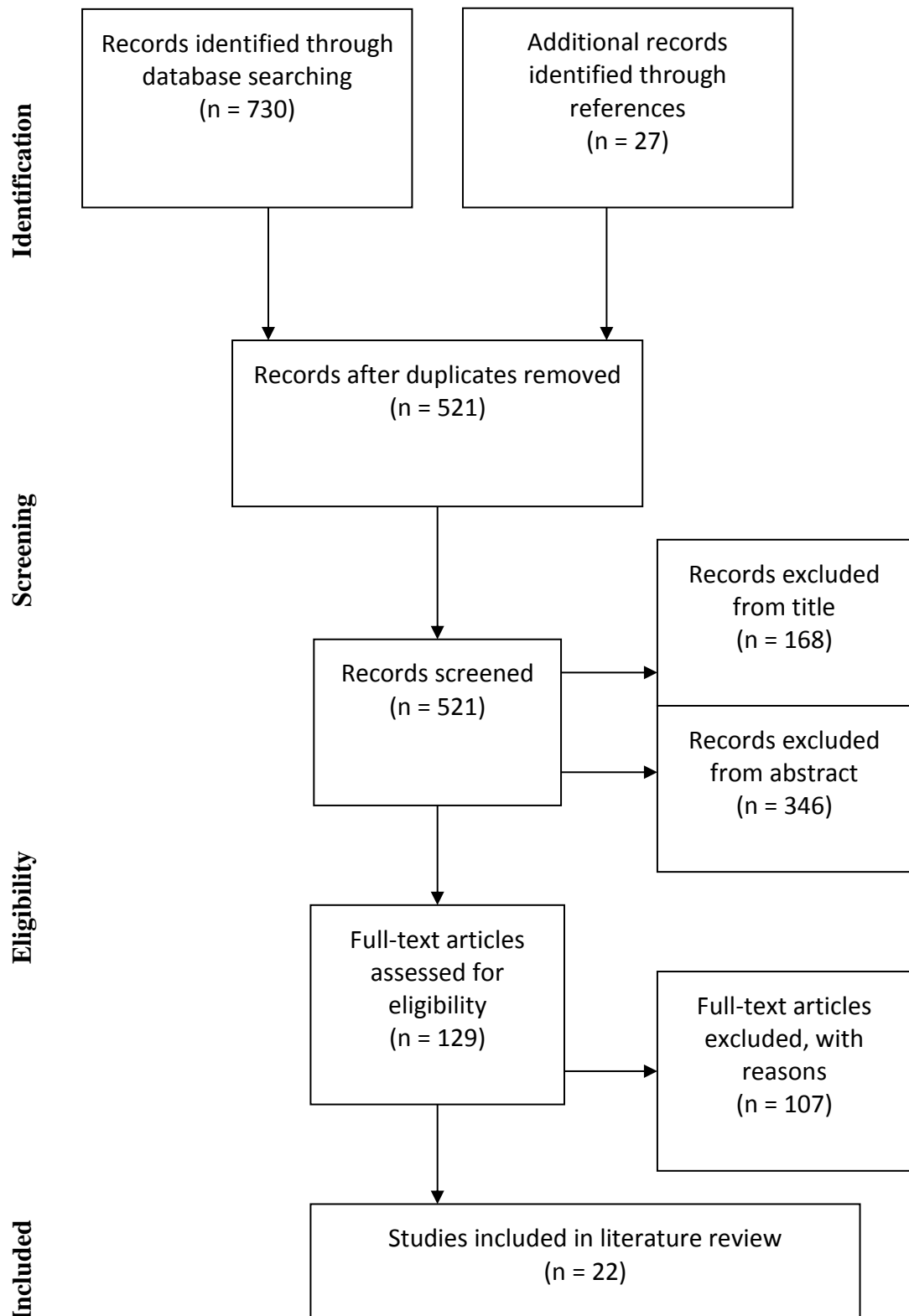


Table 2 Suicide in clinical or general populations: studies included in this review

| Author | Design | Aims | Participants/setting | Results | Key findings and conclusions |
|---|-------------------------------|--|--|---|--|
| Hamdi <i>et al</i> 2008 (UK) | Retrospective case note study | To identify risk factors in no-contact suicides (no contact with mental health services prior to death) and explain non-referral to mental health services (MHS) | Ongoing, retrospective survey over a 5-year period (2000-2004) of the views and records of clinicians involved in the care of suicide cases and by observations made by Kent County Coroners and their officers, derived from their records. | 479 suicides were identified: 358 (75%) males and 121 (25%) females. Age ranged from 15 – 93 years, and highest in the 35 – 44 age group (23%). Two thirds were single (31%), or separated, widowed, and divorced (32%). 42% killed themselves by hanging, 22% died by drug overdose. 341 suicides (71%) were not in contact with mental health services, and 138 (29%) were MHS-suicides. 51% of all suicides were either not registered, had no GP contact, or were last seen 13 weeks or more before suicide. | No contact suicides were significantly more likely to be male, employed, living with others and not diagnosed with a mental disorder. They have a significantly lesser frequency of previous self-harm. No-contact suicides take place to a considerable extent outside the current limitations of primary health and social care systems. Many have a different risk factor profile, and are similar to people who do not seek medical help in the first place. |
| Stanistreet <i>et al</i> 2004 (UK) | Retrospective case note study | To compare data on the timing and nature of final GP contacts before death among young men with a verdict of accident or misadventure and suicide or undetermined death. | Examination of inquest data, post-mortem and toxicology reports, and general practitioner (GP) and hospital records. | 268 deaths were notified from 4 coroners. Case notes were retrieved for 172 cases: 92 cases of accident or misadventure and 80 cases of suicide or undetermined death for patients who saw their GP within one month or three months of suicide. | Few young men consult in primary care prior to suicide, but those who consult prior to suicide compared to accidental deaths have more psychological components in their consultations. More interventions are required to engage young men who may be at risk of suicide, especially related to mental health and substance misuse. |
| Appleby <i>et al</i> 1996 (UK) | Retrospective case note study | The aim was to re-examine GP attendance rates, gender Differences and to evaluate risk assessment and the treatment of Depression for young suicides. | General practice contacts by a 2-year sample of suicides under 35 years of age in the 12 health districts of Greater Manchester. A recording of: (a) the number of consultations each week in the three months before suicide; (b) gender differences in rates of and reasons for consultation; (c) frequency of recorded risk assessment at the last GP visit before suicide. | There were 167 suicides by people under 35 during 1991-2. 124 case notes were retrieved for patients who saw their GP within 3 months of suicide. The number of GP visits increased significantly before death. A monthly increase was more evident in males, but the increase in the week before death was more marked in females. There was no sex difference in the rate of GP visits before suicide; both sexes were most likely to attend for psychological reasons. Significant suicide risk had been noted at none of the final GP visits. | The recent increase in suicide by young males does not appear to be related to a lower rate of GP attendance before death. Future training of GPs in this area should focus on risk assessment. |
| Matthews, Milne & Ashcroft, 1994 (UK) | Retrospective case note study | To determine the nature and timing of final contacts with medical practitioners by people committing suicide | Adults dying by suicide in Scotland during 1988-89 were identified by the General Register Office for Scotland and their Primary Care case notes studied | 1124 deaths were notified: 72% male, 28% women. Case notes were retrieved for 665 patients (71%) and reviewed for 273 deaths (41%) for individuals who consulted for psychological/psychiatric reasons only. In the week preceding the act, 16% of people had been seen by a GP, 11% seeing a hospital practitioner. In the previous 28 days, 38% of people had made contact with a GP, 21% seeing a hospital practitioner. 50% had been seen by a GP within 56 days of death. Female patients were seen closer to the suicide attempt than male patients by both hospital practitioners and GPs (MWU = 32695.5, Z = -3.40, P<0.001 and MWU | Patients with psychiatric history contact GPs more frequently than mental health practitioners prior to suicide. Medical practitioners, particularly GPs are not failing to detect and intervene in significant numbers of preventable suicides |

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| | | | | = 33426.5, Z = -4.36, P<0.001). | |
| Halligan and Corcoran, 2001 (Northern Ireland) | Questionnaire survey | To explore the impact of patient suicide on the GP at both a personal and professional level and to find out what levels of support GPs' use following patient suicide. | A questionnaire survey was sent to 152 GPs in the North Eastern Health Board area of the Republic of Ireland in 1998. 125/152 (79%) GPs responded. 57% were single-handed GPs and most practised in a mixed urban-rural area. 90/120 (75%) of GPs were male and 37% were aged 40-49 years. 103/120 (86%) of GPs reported dealing with at least one patient suicide in the previous 10 years. The mean number of suicides dealt with by GPs over a 10-year period was 3.5. The mean age of the victims was 35 years, 49% were under 30, male: female ratio was 9:1. | GPs reported that patient suicide had an impact on the professional lives of GPs with an increase in psychiatric referral (54%), more accurate record-keeping (50%), increase in antidepressant prescribing (40%) and increased use of colleague consultation (36%). 35% of GPs expressed feeling guilty after a patient suicide. 24% of GPs noted a disruption of their relationship with the victim's family, 22% had sleep disturbance. Reasons for patient suicide having had a low impact on GPs were: not attending scene of suicide, victim being an infrequent attender, shared care with other professionals, and high impulsivity of suicide. 20% of GPs sought support following patient suicide, while 62% said that they would use a support system if available. | Patient suicide in general practice occurs more frequently than one would expect with the average GP encountering one every three years. Apart from 'guilt feelings' more than four out of five GPs reported no effects following patient suicide. Factors that lessened the effects of patient suicide were identified and most GPs indicated their preference for a support system to be established to facilitate GPs in dealing with the aftermath of practice suicide. |
| Draper <i>et al</i> 2008 (Australia) | Psychological autopsy method | To determine the feasibility of undertaking such a study and to describe the characteristics of the last health professional contacts with the suicide victim including the identification of psychological morbidity and suicide risk | Adults >34 years dying by suicide between April 2003-April 2004 were identified by the Glebe coroner offices. Interviews with next-of-kin and health care professional who saw the patient within 3 months of their death | 127 suicide deaths: 52 next-of-kin interviews (41%) and 37 health care professional interviews (15 were GPs). 62% of patients last contact was for psychiatric reasons. 50% of the sample had a diagnoses of severe depression. The majority of patients were prescribed antidepressants and nearly one third of patients were non-compliant. Risk assessments were mostly completed by psychiatrists and none of the patients assessed with major depression were rated as suicidal. GPs and nurses were less likely to assess patients who seemed to be improving. | GP depression education is needed for further suicide prevention, particularly as older people are mostly to contact GPs prior to suicide. |
| Isometsa <i>et al</i> 1995 (Finland) | Psychological autopsy study | To determine whether people who committed suicide within 4 weeks after having made contact with a health care professional communicated their intent to commit suicide during that final contact | Data was examined on all suicides in Finland that occurred in a 1-year period | 571 suicides whose last appointment with a health care professional took place up to 28 days before suicide, including 100 cases of victims who had appointments on the day of suicide. Suicide intent was reportedly discussed in only 22% of the cases; it was particularly uncommon in general practice and non-psychiatric specialist settings. | The majority of patients who died by suicide did not communicate their intent to do so during their last appointment with a health professional. |
| Owens <i>et al</i> 2005 (UK) | Qualitative analysis of psychological autopsy data | To explore how distressed individuals and members of their lay networks had made decisions to seek or not to seek help from a medical practitioner in the period leading up to suicide. | Semi-structured interviews with close relatives or friends of suicide victims were conducted as part of a psychological autopsy study. Sixty-six interviews were transcribed verbatim and analysed using a thematic approach. | Relatives and friends often played a key role in determining whether or not suicidal individuals sought medical help. 50% of the sample had consulted in their final month and many were persuaded to do so by a relative or friend. Of those who did not consult, some were characterised as help-resisters but many others had omitted to do so because no-one around them | Greater attention needs to be given to the potential role of lay networks in managing psychological distress and preventing suicide. A balanced approach to suicide prevention is recommended that builds on lay knowledge and combines medical and non-medical strategies. |

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| | | | | was aware of the seriousness of their distress or considered it to be medically significant. A range of lay interventions and coping strategies was identified, including seeking non-medical help. | |
| Bajaj <i>et al</i> 2008 (UK) | Cross-sectional survey and interview study | To examine GPs' attitudes to screening for suicidal ideation and behaviour. | Patients and GPs at three general practice surgeries in north west London. The study combined open and closed questions on attitudes to screening or being screened for suicidal ideation in the surgery and over the phone. | 101/132 patients took part in the survey and 103/300 GPs completed a questionnaire. A majority of both GPs and patients stated that people should be screened for suicidal ideation. A minority of patients and GPs stated that asking or being asked such questions made them feel uncomfortable. Less than half of GPs had received formal training on the assessment of suicide risk. Barriers to screening included time pressures, culture and language, and concerns about the impact that screening could have on people's mental health. 25% of GPs and 20% of patients supported the notion that screening for suicidal ideation could induce a person to have thoughts of self-harm. | GPs and family doctors should screen for suicidal risk among depressed patients and should receive training on how to do this as part of their general training in the assessment and management of mental disorders. Research should be conducted to examine what, if any, effect screening for suicidal ideation has on mental health. |
| Kendell & Wiles 2010 (UK) | Qualitative interview study | The focus of the paper was on the ways in which GPs view, manage and experience Critical Incident Review (CIRs) for suicide in primary care | 16 GP semi-structured interviews about their involvement in a CIR following a patient's suicide (10 men, 2 women, aged 22-68 years). The study involved setting up, running and evaluating critical incident reviews on all patient suicides that occurred within a central city Primary Care Trust between May 2001 and February 2002. | Suicide verdicts were returned on 9 people and open verdicts on 3. Of the 12 cases, 7 were patients with identified mental health problems. The review process provoked strong emotions of sadness and guilt as well as fear of blame. Most GPs felt comforted by the CIRs because their findings confirmed that they were not responsible for the suicide. GPs indicated that such comfort was tenuous due to the broader blame culture and because they foresaw many future audits as part of an inflationary spiral of surveillance and risk management. | While the GPs adopted strategies to manage and resist surveillance, the effects of CIRs on patient care may be mixed, with the potential both to improve clinical practice and contribute to adverse outcomes. Overall the CIRs paradoxically contain and create anxieties about suicide among GPs and society more broadly. |
| Biddle <i>et al</i> 2006 (UK) | Qualitative interview study | To explore young adults' perceptions of GPs as a source of help for mental distress. | Males and females aged 16-24 years were screened as 'cases' with probable mental disorder (GHQ [General Health Questionnaire]-12 score ≥ 4) or describing past episodes of mental disorder ($n = 23$) were sampled purposively according to help-seeking behaviour. Semi-structured interviews explored help-seeking choices. Transcripts were analysed using thematic, constant comparison and case study analysis. | 1276 young adults were surveyed. 35.4% ($n = 449$) were GHQ 'cases'. Of these, only 8.3% ($n = 37$) had recently consulted a GP about emotional problems or symptoms of distress. Help-seeking was low (14.2%) among those reporting recent suicidal thoughts ($n = 135$). Interviews were conducted with 'cases' to explore these findings. In total, 106 cases were invited to interview and 29 agreed to participate, but six could not be contacted or did not attend. 23 interviews were conducted. | Negative perceptions about the value of consulting a GP for mental distress may explain low rates of help-seeking among young adults, including those with severe distress. Young people require a better understanding of GPs' role. It is also necessary to address evidence reported elsewhere that some GPs also experience uncertainties about what they can offer within the constraints of primary care. |

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| Vassilas & Morgan 1993 (UK) | Interview and case control study | To review if suicides with no history of psychiatric contact and younger suicides would have had fewer contacts with their GP than those with a psychiatric history and older victims. | Avon coroner records were examined over 20-month period. The GP responsible for the deceased was interviewed and provided details of a matched control selected from the practice age-sex register as the next patient of the same sex born after the suicide case. | 139 cases: 107 men, 32 women. 51 (45 men) were aged under 35, 45 of them men. 18 (35%) of under 35 years of age and 49 (56%) over aged 35 years had ever had psychiatric contact (x24 59, df= 1; p=0.03). For all time periods up to a year those who were aged over 35 years were more likely to have consulted their GP than those under 35. In the 28 days before death 34 of the 67 (51%) of those with a history of psychiatric contact consulted their GP compared with 18/72 (25%) who had no history of psychiatric contact (X28*76, df= 1, p=0.003). | Consultation patterns were no different for the younger victims from those of controls, and it may be that those aged under 35 years do not feel it appropriate to discuss emotional or psychological problems with a doctor. There also appears to be a greater element of impulsiveness in these suicides, with fewer harbingers. Educational campaigns aimed at teaching GPs to recognise and treat depressive illness have been suggested as ways of reducing suicide rates. For those aged under 35 other strategies must be found, as many in this group do not present to general practitioners. |
| Vannoy & Robins 2011 (USA) | Mixed methods study | To characterise suicide-risk discussions in depressed primary-care patients | Presence of depression or suicide-related discussions during consultations; patient and GP demographics; depression symptom severity and suicide ideation as measured by the PHQ9; GP's decision-making style as measured by the Medical Outcomes Study Participatory Decision-Making Scale; support for autonomy as measured by the Health Care Climate Questionnaire; trust in their GP as measured by the Primary Care Assessment Survey; GP response to suicide-related enquiry or disclosure | 48 GPs and 1776 adult patients. 128 patients scoring >14 on the PHQ9. These patients were seen by 43 of the 48 GPs. 59% endorsed suicide ideation. Depression was discussed in 52% of the consultations (n=466). Suicide-related discussion occurred in only 11% of consultations. 92% of the suicide discussions occurred with patients scoring <2 on PHQ9 item 9. Suicide was discussed in only one consultation with a male. Variation in elicitation and response styles demonstrated preferred and discouraged interviewing strategies. | Suicide ideation is present in a significant proportion of depressed primary care patients but rarely discussed. Men, who carry the highest risk for suicide, are unlikely to disclose their ideation or be asked about it. Patient-centred communication and positive healthcare climate do not appear to increase the likelihood of suicide-related discussion. GPs should be encouraged to ask about suicide ideation in their depressed patients and, when disclosure occurs, facilitate discussion and develop targeted treatment plans. |
| NCISH 2014 (UK) | Case-control study | To examine contacts with primary care in people who died by suicide, and the clinical care they received in the previous 12 months | The Clinical Practice Research Datalink (CPRD) was linked with the Office for National Statistics (ONS) mortality dataset in order to identify primary care patients aged 16 or older who died by suicide between 2002 and 2011. | 2,384 patients who died by suicide were matched with 46,899 living patients. 76% were male and 24% female, median age 45 years. 6 deaths per practice over a 10-year period. 37% of patients had not seen a GP in the year prior to suicide – more likely to be male and younger. Suicide risk increased with frequent attenders. 37% did not have a mental health diagnosis at the time of death. Patients who died were prescribed more psychotropic drugs - 31% two or more drugs from different groups. | The study shows the value of the CPRD database in investigating factors associated with suicide in patients in primary care. Future work might examine what other services (e.g. drug and alcohol services, NHS walk-in centres, A&E, educational facilities) non-attenders access in order to identify other potential avenues for prevention. |
| Rodi <i>et al</i> 2010 (Slovenia) | Case-control study | To assess the date of the last appointment (and complaint) of suicide victims | All suicide victims in the Škofja Loka region in the period 1993–2003. Each of the cases was | 30/77 suicide victims visited their GP in the last month before suicide (14/77 in the last week); only 16/77 controls did so before the index day | GPs should be equipped with systematic steps and provisions that would enable them to act on time and correctly, especially with |

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| | | | assigned the closest control in terms of age and gender. | (3/77 in the last week). In 30% of suicide victims, the reason for the last visit was mental health problems (only 3% in the control group). | patients displaying symptoms of depression. Once provided with this information, GPs should attend booster sessions on the same topic to renew their knowledge. Additionally it would be useful to include additional gate keepers from primary care, such as nurses to help with GPs time constraints. |
| Haste <i>et al</i> 1998 (UK) | Case-control study | To identify, in suicide cases and matched controls, the patterns of consultation, diagnosis, and treatment of mental illness, and recording of risk factors for suicide. To examine the usefulness of data routinely collected by GPs in computerized databases to investigate treatment of patients in general practice prior to suicide. | Suicide cases aged 16–64 years, for suicides occurring between May 1991 and May 1993. GP records from the GPRD. Three controls selected for each case, matched for age, sex, and duration of registration with practice. Information extracted of the prevalence of major disease; diagnosis of, and treatment, or referral for, mental illness; frequency of recording of recent life events; and consultations with the GP in the 12 months prior to death. | 339 suicide cases and 3 matched controls for each case. 80% male, 20% female. Female: male mental health history and treatment – 59% v 35%. Female: male suicide attempt – 47% v 27%. Females consulted more frequently. | Females at risk of suicide are more likely than males to have been diagnosed and treated for mental illness. It is likely that GPs are under-diagnosing and under-treating males at risk. Data from the GPRD give comparable results to those from other studies. The GPRD is a potentially useful tool for research into relatively uncommon events in general practice. |
| Power <i>et al</i> 1997 (USA) | Case-control study | To compare the characteristics of those who commit suicide with an age- and sex-matched control group in terms of level of general practitioner attendance, diagnosis and pharmacological treatment of mental illness, and to compare those suicides with and without a psychiatric history in terms of general practitioner attendance and history of pharmacological treatment | Live controls were matched to index cases by age, sex and practice. Information was collected on consultations, referrals to secondary care, medication and diagnoses in the previous 10 years. | 48 deaths attributed to suicide and undetermined causes in the Forth Valley in 1993. GP case notes were located for 41: 32 men, 9 women. Suicide patients visited their GP more than matched controls over the 10-year period and were more likely to have received a psychiatric diagnosis, prescribed psychotropic medication and referred to specialist mental health services. Patients with a psychiatric diagnosis visited their GP significantly more prior to suicide than controls. | It is difficult to assess how GPs may intervene for patients without a psychiatric diagnosis who do not differentiate from the norm. More information is needed about the content of consultations for patients with a psychiatric history who visit GPs prior to suicide and their other consultations. It seems that GPs are recognising risk in patients prior to suicide but more work is needed to understand how GPs may be failing to intervene. |
| Crawford <i>et al</i> , 2011 (UK) | Single blind randomised controlled trial | To examine whether screening for suicidal ideation among people who attend primary care services and have signs of depression increases the short-term incidence of feeling that life is not worth living. | Single-blind, randomised controlled trial, 443 patients in four general practices were randomised to screening for suicidal ideation or control questions on health and lifestyle. The primary outcome was thinking that life is not worth living measured 10–14 days after randomisation. Secondary outcome measures comprised other aspects of suicidal ideation and behaviour. | 443 participants were randomised to early (n = 230) or delayed screening (n = 213). Their mean age was 48.5 years (s.d. = 18.4, range 16–92) and 137 (30.9%) were male. The adjusted odds of experiencing thoughts that life was not worth living at follow-up among those randomised to early compared with delayed screening was 0.88 (95% CI 0.66–1.18). Differences in secondary outcomes between the two groups were not seen. Among those randomised to early screening, 37 people (22.3%) reported thinking about taking their life at baseline and 24 (14.6%) that they had this thought 2 weeks later. | Screening for suicidal ideation in primary care among people who have signs of depression does not appear to induce feelings that life is not worth living. |

| | | | | | |
|--|-------------------|--|--|---|--|
| O'Conner <i>et al</i> 2013 (USA) | Systematic review | To review the accuracy of screening instruments and the efficacy and safety of screening for and treatment of suicide risk in populations and settings relevant to primary care. | Studies that assessed the accuracy of screening instruments in primary care or similar populations and trials of suicide prevention interventions in primary or mental health care settings | Evidence was insufficient to determine the benefits of screening in primary care populations; very limited evidence identified no serious harms. Minimal evidence suggested that screening tools can identify some adults at increased risk for suicide in primary care, but accuracy was lower in studies of older adults. Minimal evidence limited to high-risk populations suggested poor performance of screening instruments in adolescents. Trial evidence showed that psychotherapy reduced suicide attempts in high-risk adults but not adolescents. Most trials were insufficiently powered to detect effects on deaths. | Primary care-feasible screening tools might help to identify some adults at increased risk for suicide but have limited ability to detect suicide risk in adolescents. Psychotherapy may reduce suicide attempts in some high-risk adults, but effective interventions for high-risk adolescents are not yet proven. |
| Schulberg <i>et al</i> 2004 (USA) | Systematic review | The aim of the review was to highlight opportunities whereby GPs could more effectively intervene with depressed individuals as well as other high-risk subgroups | Studies that used study samples from community or primary care; reported quantitative data for potential or completed suicides in adults over age 18; and administered psychometrically validated instruments to screen for or diagnose psychiatric morbidity. | Empirical evidence and expert opinion regarding: the prevalence of suicide and suicidal ideation among primary care patients; the manner in which depressed and other possibly suicidal patients present to the GP; and the nature of risk assessments feasibly conducted with patients. | Patients who wish to harm themselves but still lack an articulated plan for doing so can be treated by the GP with the monitoring assistance of a depression care manager and appropriate consultation by a mental health specialist. |
| Luoma, Pearson & Martin 2002 (USA) | Literature review | To examine the time duration between last contact and suicide and data on their last consultation with primary care of mental health professionals | 40 studies that included groups of individuals who completed suicide – 4 record reviews; 21 record reviews and supplement data; 14 psychological autopsies | 33% of suicide decedents had contact with mental health services within the year of their death compared to over 75% with primary care providers. Older adults and women consulted most and younger men consulted less than all groups. | Suicide-prevention efforts should be aimed at older people and women in primary care. Other efforts are needed to engage with younger men who are less likely to consult prior to suicide. |
| Pirkis & Burgess 1998 (Australia) | Literature Review | The review looks at studies which have considered the duration between last contact with health care and suicide, looking for evidence that such contact occurs sufficiently close to the event for the health care providers to be in a position to intervene | Articles were included in the review if they presented at least one estimate of the proportion of suicide cases who contacted mental health providers and/or GPs within one year of death. | 24 studies were included. 8 studies were last contacts with GPs. 7 used inquest case notes and one was an interview study. Contacts were common with both groups but higher with GPs – 83% within year and 20% within one week of death. | Contact with health services is common before suicide. Consistent with previous studies and international policy documents, clinicians can play a role in prevention the tragedy of suicide. |

2.2 How often do GPs experience a patient suicide?

On average GPs may experience one suicide every 3-7 years (Matthews *et al*, 1994; Diekstra and van Egmond, 1989; Halligan and Corcoran, 2001). Although many studies report that high numbers of patients visit their GP prior to suicide, to our knowledge no recent studies have reported on the number of suicide deaths a GP will experience in their career. The most recent study reports an average of six deaths per GP practice over a 10-year period (National Confidential Inquiry into Suicide and Homicide by People with Mental Illness [NCISH], 2014). However, this was per practice not per GP and more work is needed to identify whether the rates of patient suicide per GP have changed over recent years. Of course there will be variability by individual practitioner and practice which may be related to the characteristics of the patient population.

2.3 Consultation behaviour of patients in primary care prior to suicide

2.3.1 Primary care patient's consultation rates with GPs prior to suicide

Studies have investigated primary care consultation data over different time periods prior to suicide: one week (Matthews *et al*, 1994); one month (NCISH, 2014; Rodi *et al*, 2010; Luoma *et al*, 2002; Pirkis *et al*, 1998; Haste *et al*, 1998; Power *et al*, 1997; Matthews *et al*, 1994); one to three months (Draper *et al*, 2008, Stanistreet *et al*, 2005; Appleby *et al*, 1996; Matthews *et al*, 1994); six months (Haste *et al*, 1998); and, one year (NCISH, 2014). A review of the published studies indicates that: 16% to 25% of patients who died by suicide visited their GP in the week prior to death (Rodi *et al*, 2010; Haste *et al*, 1998; Matthews *et al*, 1994); between 32-66% in the month preceding their death (NCISH, 2014; Rodi *et al*, 2010; Luoma *et al*, 2002; Pirkis *et al*, 1998; Haste *et al*, 1998; Power *et al*, 1997; Matthews *et al*, 1994); 25% to 75% within 30 to 90 days of the suicidal act (Rodi *et al*, 2010; Luoma *et al*, 2002; Pirkis *et al*, 1998; Power *et al*, 1997); 75% within six months of suicide (Haste *et al*,

1998). In a recent UK study the authors reported 63% of those who had died by suicide consulted in the year prior to death (NCISH, 2014). The frequencies of visits in the month prior to suicide in Europe and the US appear to be similar (Rodi *et al*, 2010; Luoma *et al*, 2002; Haste *et al*, 1998).

Patients who were at risk of suicide, particularly in the two or three months prior to dying consulted frequently in primary care (NCISH 2014; Appleby *et al*, 1996) - in those who attended more than 24 times, risk was increased 12-fold (NCISH, 2014). Some studies highlighted that medical contact with those who died from suicide may not have taken place close to the date of death (Matthews *et al*, 1994; Haste *et al*, 1998). For example, in one cohort it was necessary to look back 20 weeks to locate the final contact for two-thirds of the sample (Matthews *et al*, 1994) and another reported that 20% of patients consulted 13 weeks or more before suicide (Hamdi *et al*, 2008). To date, the majority of studies have focussed on collating data for those patients who consulted in the month to three months prior to suicide but to capture more comprehensive data studies could collate information over a longer time-period. Additionally the sample of patients used in studies varied, for example some only used patients who had consulted for psychological/psychiatric reasons (Matthews *et al*, 1994). Therefore, all of the findings may not be generalisable.

2.3.2 Individual characteristics of patients consulting prior to suicide

Consultation patterns vary by patient characteristics such as age, gender, ethnicity and history of mental illness or substance misuse. In particular, GP attendance rates are high among patients with a history of mental illness; depression in particular (King *et al*, 2008). Patients with mental illness consult more frequently in the weeks prior to death compared to patients

without a mental illness (Rodi *et al*, 2010; Draper *et al*, 2008; Hamdi *et al*, 2008; Haste *et al*, 1998; Matthews *et al*, 1994).

2.3.2.1 Age

Older people are more likely to have consulted with GPs before suicide (O'Connor *et al*, 2013; Luoma *et al*, 2002; Vassilas, & Morgan, 1993; 1994) than younger adults (NCISH, 2014; Biddle *et al*, 2004; Gunnell and Frankel., 1994; Rickwood and Braithwaite., 1994; Vassilas and Morgan, 1993); particularly young males (Biddle *et al*, 2006; Vassilas and Morgan, 1993; Appleby *et al*, 1996; Stanistreet *et al*, 2004). The main reasons underpinning non-help seeking among mentally distressed young adults aged 16-24 years may be the negative perceptions that young people have about the value of consulting for mental distress (Biddle *et al*, 2006). Previous findings suggest that more work is needed to engage young people who may be feeling suicidal or mentally distressed, specifically, young men experiencing emotional distress or problems related to mental health or substance misuse (Stanistreet *et al*, 2004). However, these results should be interpreted cautiously as age ranges are grouped differently across the studies.

2.3.2.2 Gender

Gender differences are evident in the consultation patterns of individuals prior to suicide and also more generally (Appleby *et al*, 1996; Kapur *et al*, 2005; Luoma *et al*, 2002; Biddle *et al*, 2004; Rodi *et al*, 2010; Haste *et al*, 1998). The accessibility of health services to males has been questioned in previous studies as most health services are close to home rather than to their place of work and operate during daytime when employed males may be at work (Russell *et al*, 2004; Möller-Leimkühler, 2001). Of course, such restrictions also apply to working females. In addition, the threshold for reporting psychological symptoms may be

higher in males than females (Stansfeld and Marmot, 1992, cited in Gunnell *et al*, 2002) but males are less likely to seek help when depressed (Parslow and Jorm, 2001, cited in Gunnell *et al*, 2002). Researchers have attempted to find explanations for why gender is such a significant risk factor for suicide and why gender differences exist for consultations in primary care.

Although much research has focused on male and female ‘frequent attenders’, studies focusing on gender differences for patients who consulted prior to suicide are limited (Schrijvers *et al*, 2012). The ones that exist have tended to be small and in many cases are now outdated (Haste *et al*, 1998; Appleby *et al*, 1996). Appleby and colleagues (1996) reported an apparent increase in males visiting GPs a month prior to suicide, but the increase in the week before death was more marked in females. Other studies have reported that 80% of young male suicides had had no contact with their GP, psychiatrist or other support agency in the month prior to death (Stanistreet *et al*, 2004). However, there is consistent evidence that women consult with GPs more frequently than men generally (Kapur *et al*, 2005) and prior to suicide in particular (Schrijvers *et al*, 2012; Luoma *et al*, 2002; Haste *et al*, 1998; Appleby *et al*, 1996).

2.3.2.3 Ethnicity

Few studies have reported or compared consultation rates in primary care prior to suicide for ethnic minority populations compared to the general population (Hamdi *et al*, 2008). This may be due to a lack of accurate recording of ethnicity within health care systems and no recording of ethnicity on death certificates. One UK study has reported on ethnicity for patients in contact with primary care who died by suicide but numbers were low and the

proportion (4%) was identical with the proportion of ethnic minorities in the local geographical area (Hamdi *et al*, 2008).

2.3.2.4 Visiting patterns and risk of suicide

Given the visiting patterns prior to suicide, should these alert GPs to their patients' distress or do these visiting patterns simply resemble those of non-suicidal patients? Power and colleagues (1997) found that although patients who died by suicide had visited their GPs at a higher rate than controls in the preceding decade, visiting patterns for the two groups did not differ in the month preceding death. Similarly, Lin and colleagues (2001) detected no substantial differences in the use of general medical services between the suicides and the controls in the month before death. However, Vassilas and Morgan (1993) did find differences between groups with a history of psychiatric contact who saw their GPs more in the 28 days before suicide compared to patients with no history of psychiatric contact (51% v 25%). Studies of help seeking by patients who die by suicide below age 35 (Stanistreet *et al*, 2004; Appleby *et al*, 1996; Vassilas and Morgan, 1993) found no differences in the visit patterns of at-risk and control groups. Although not statistically significant, Stanistreet and colleagues (2004) did report that patients who died by suicide were more likely to consult with GPs than those who died by misadventure. The NCI (2014) recently reported that patients who died by suicide visited their GP more often than controls in the year prior to death, and that those patients consulted GPs frequently more in the two to three months prior to suicide. Thus, the results from available studies on visiting patterns are equivocal.

2.3.2.5 Psychiatric disorders in primary care

In addition to the pattern of consultations another important issue is the content of individual consultations, particularly whether the patient presents with psychological/psychiatric

symptoms. Most of the studies in this review reported that patients who died by suicide had high rates of psychological symptoms and were prescribed more psychotropic drugs compared to controls and generally (Power *et al*, 1997; Haste *et al*, 1998; Stanistreet *et al*, 2004; Draper *et al*, 2008; Rodi *et al*, 2010; Kendall and Wiles, 2010; NCISH, 2014).

Appleby and colleagues (1996) reported no significant gender differences in the GP visits for young people (aged less than 35 years) for psychological reasons prior to suicide.

Contradictory to these findings, one study reported that females consulted with GPs more than males for mental health complaints (58% v 35%; Haste *et al*, 1998). The previous study (Haste *et al*, 1998) included all age ranges and used a larger sample (339 versus 66) and compared both suicide cases and 3 matched-controls. Based on these findings, a tentative conclusion is that there are notable differences in the reasons for consultation between male and female patients. However, most of the studies are now dated and larger scale studies on gender differences for patients with psychiatric symptoms who consult in primary care prior to suicide may be required in order to help develop specific interventions.

Patients who died by suicide, consulted more with primary care than mental health providers in the month prior to death (Matthews *et al*, 1994; Pirkis and Burgess, 1998; Luoma *et al*, 2002). However, at a patient's final consultation prior to suicide, risk assessments were conducted less often by GPs than psychiatrists, perhaps reflecting the more central role of risk assessment in secondary care settings (Draper *et al*, 2008). Rodi and colleagues (2010) reported that 30 out of 77 patients visited their GP in the last month before suicide compared to 16 out of 77 controls during the same time period. In 30% of people who died by suicide, the reason for the last visit was mental health problems compared to only 3% in the control group. However these results need to be interpreted cautiously as the low rates of psychiatric

symptoms or problems may have been due to the GP not diagnosing a mental health complaint or a psychiatric disorder being masked behind a physical complaint. For example, one patient's last contact was for chronic headaches and lower back pain – both possible hidden signs of depression. Even though 3% of the controls were reported to have no mental health problems; 10% of the controls were prescribed psychotropic drugs at the time of their death. This was contradictory to the primary care consultation data but may have been explained in the prescribing data from psychiatric services for these patients - however this was unavailable for the study. The findings suggest that there may be some personal bias by the researchers in the judgement and coding of the last consultation in studies that have been conducted to date.

Other retrospective studies have highlighted that GPs may not have always recorded the reason for a patient's last visit or whether they completed a risk assessment. For example, one study examining 167 young people who had died by suicide reported that significant suicide risk was not noted at any of the final GP visits over a 2-year period (Appleby *et al*, 1996). However, 39 of the 61 patients (64%) who visited a GP were judged to have done so for psychological reasons, with or without a physical complaint. Few details were recorded for the majority of patients where symptoms of emotional disturbance were noted (20 patients), psychotropic drugs were prescribed (17 patients) and sickness certificates were given for mental illness (2 patients) (Appleby *et al*, 1996). In this study it was difficult to interpret whether GPs were failing to recognise the warning signs or risk factors of suicide or whether they were conducting risk assessments for patients attending with mental health complaints. This study was carried out in 1996, before the first suicide prevention strategy was published (DH, 1999) and therefore may need to be read cautiously as researchers may have perceived that no risk assessment was completed due to the lack of written confirmation by GPs in the

patient case notes. The recording of suicidal behaviour and risk assessments may have improved over the years but more research is needed to confirm this.

The most common psychiatric diagnosis in primary care internationally is depression (NCISH, 2014; Rait *et al*, 2009; Kessler *et al*, 2002). A case-control study of patients who died by suicide that used the CPRD to review consultation data over a 10-year period recently reported that seven out of ten patients, who had ever had a mental health diagnosis in primary care, had a diagnosis of depressive disorder (NCISH, 2014). Power and colleagues (1997) reported that patients were more likely to be diagnosed with depression than those in the control group (41% v 12%; $p < 0.01$). Nevertheless, depression was the most common mental health diagnosis in both groups, followed by anxiety (39% v 10%; $p < 0.01$) and alcoholism (31% v 7%; $p < 0.001$). However in this study (Power *et al*, 1997) comparisons were not made for consultation rates following the date of a psychiatric diagnosis. This would have been interesting as it may have shed light on whether patients' attendance rates varied before and after their diagnosis was made by the GP. Further exploration is needed in this area as no studies to date have looked at timing of psychiatric diagnosis in relation to consultation rates in primary care prior to suicide.

As reported in the previous section, depression is the most common psychiatric illness with which patients present to their GPs and is a consistent risk factor for suicide across studies (Harris & Barraclough, 1997; NCI, 2013). A study of primary care attendees in 6 European countries showed a 6-month period prevalence of depression ranging from 6.5%-18.4% in women and 4.4%-12.7% in men (King *et al*, 2008). In the UK, prevalence rates for depression were 13.2% for women and 12.7% for men – the highest male prevalence of all 6

European countries. The burden of common mental disorders (including major depression, anxiety syndrome and panic syndrome) was high in the UK.

More than 50 studies carried out in a variety of settings and published over the past three decades come to the common conclusion that the risk of suicide increases with depression and recurrent major depressive episodes (Angst *et al*, 1999; Schneider *et al*, 2001; Zonda and Gróza, 2000). The deeper the depression, the more likely it is that a person will experience suicidal ideation. The recognition of depression in patients who present in primary care has become vital to suicide prevention strategies but despite recent efforts to increase the recognition of depression by GPs, mental illness is still frequently unrecognised. For example one recent study found that 37% of primary care patients who die by suicide had never received a diagnosis (NCISH, 2014). This is consistent with findings since the 1980s that have reported a lack of identification of depression, with GPs recognising depression in approximately one third of patients (Mitchell *et al*, 2009). The rates of treatment with antidepressants have increased markedly between 2000 and 2009 suggesting a possible increase in the recognition of depression (Menchetti *et al*, 2011). However, it is important to note that not all patients who die by suicide have a mental health problem and the use of antidepressants may have been for the treatment of other conditions such as pain management and this may have contributed to the increase treatment with antidepressants (Gardarsdottir *et al*, 2007).

2.3.2.6 Substance misuse

Substance misuse is common among individuals with mental illness generally (Menezes *et al*, 1996; Weaver *et al*, 2003), and is a common diagnosis for individuals who have died by suicide (Gimilfarb and Natan, 2009; Szerman *et al*, 2012; Henriksson *et al*, 1993). Similar

findings were reported in the 'Avoidable Deaths' report (NCI, 2006); however they also reported a high prevalence of schizophrenia and bipolar disorder in patients who were diagnosed with substance misuse disorders. From a clinical perspective, the management of patients with both substance misuse and mental health problems ('dual diagnosis') has presented particular challenges.

One reported issue was that people misusing substances may have experienced psychotic symptoms whilst intoxicated or following withdrawal from substances, particularly hallucinogens and/or stimulants. These may continue beyond the acute phase of intoxication and/or withdrawal. This could have the effect of (1) masking symptoms; (2) exacerbating symptoms; and, (3) affecting compliance with medication or adherence to medication. For these reasons, it may be difficult to distinguish between psychoses and substance misuse and to make an accurate diagnosis (Semple *et al*, 2005). Consequently, the term dual diagnosis, in the context of substance misuse, may refer to a range of problems including (DH, 2009):

- A primary mental health problem that provokes the use of substances;
- Substance misuse and/or withdrawal leading to psychiatric symptoms or illnesses;
- A psychiatric problem that is worsened by substance misuse; or
- Substance misuse and mental health problems that do not appear to be related to one another.

Szerman and colleagues (2012) compared three groups of patients in Spain according to current diagnosis: (i) dual diagnosis patients, (ii) patients with substance use disorders but no other mental disorders, and (iii) patients with mental disorders but no substance use disorders. They found that dual diagnosis patients showed several demographic and clinical differences and a higher risk for suicide than the other two comparison groups. This study used a

descriptive approach and an inclusive definition of dual diagnosis. However, this definition was not standardized and therefore comparability with other studies is limited. The major strength of the study was the use of structured instruments of assessment as previous studies have mostly used self-report measures and a longer interval to evaluate substance use or substance abuse as a diagnosis (6–12 months), whereas this study was based on current diagnoses (last month) given by health professionals (psychiatrists, psychologists, or GPs) expected to have a better knowledge of the patients. The study was conducted in two public health services to avoid biases conveyed by clinical settings but the findings may not reflect clinical settings in other countries.

Whilst this study (Szerman *et al*, 2012) highlights that suicide risk increased in patients with dual diagnoses and other studies have reported that treatments can be effective for the treatment of alcohol and substance abuse (National Institutes of Drug Abuse, 1999, National Institute for Alcohol Abuse and Alcoholism, 2002), few studies have measured the efficacy of treatment for substance misuse in the reduction of suicide (Gimiefarb, 2009; Crawford *et al*, 2004; Szerman *et al*, 2012; Henriksson *et al*, 1993).

One randomised controlled trial in the UK, investigated the effect of screening and referral of 559 patients found to be misusing alcohol while attending an emergency department [ED] over a 12-month period (Crawford *et al*, 2004). Patients referred for a brief intervention for alcohol misuse was associated with lower alcohol consumption at 6 months follow up than controls who were just given a health information leaflet ($t -2.4$, $p = 0.02$). There were also lower levels of re-attendance to the department in the experimental group than controls. The findings of both studies suggest that patients with dual diagnosis may benefit from brief

interventions for alcohol misuse. However a later exploratory study suggested that the intervention did not have an effect on future suicidal behaviour (Crawford *et al*, 2010).

The responsibility for the care of people with dual diagnosis prior to suicide falls to a range of different health and social care services, including primary care, mental health outreach services, substance misuse services and peer support groups. Although practices in each area vary, substance misuse services and mental health services have largely been delivered in parallel, meaning patients have to access services separately. In 2008, 'Clinical management of service users with dual diagnosis (mental health and substance use)' was published (DH, 2008). The NICE guidance (2010, 2011a, 2011b) built on the previous frameworks (DH, 2002; 2008), and was intended to ensure that care pathways were in place to facilitate transitions between services. The guidance documents noted that parallel services, whilst a recognised and accepted model of care for people with dual diagnosis, might increase the risk of miscommunication or fragmentation. More integrated approaches to care are recommended, either by introducing specialist dual diagnosis teams or through greater integration of existing services. All references within the policies to trust services and staff imply involvement of local authority staff and services, including primary care.

2.3.2.7 Physical illness

There is a strong association between elevated suicide risk, physical illness and mental illness, particularly depression (Moussavi *et al*, 2007; Webb *et al*, 2012). Most previous studies have investigated suicide and a recent UK study by Webb and colleagues (2012) investigating 11 major physical illnesses using the CPRD identified the relative risk of suicide across a range of common physical illnesses and the relative contribution of depression to suicide risk. A total of 873 adult suicide cases and 17 460 living controls

matched on age and gender were studied. Among all patients, coronary heart disease, stroke, chronic obstructive pulmonary disease, and osteoporosis were linked with elevated suicide risk, and, with the exception of osteoporosis, the increase was explained by clinical depression.

The only significantly elevated risk in men was with osteoporosis. Female effect sizes were greater, with 2- or 3-fold higher risk found among women diagnosed as having cancer, coronary heart disease, stroke, chronic obstructive pulmonary disease, and osteoporosis. In women with cancer and coronary heart disease, a significant elevation persisted after adjustment for depression. Overall, heightened risk was confined to physically ill women younger than 50 years and to older women with multiple physical diseases. The findings indicate that clinical depression is a strong confounder of increased suicide risk among physically ill people. Webb and colleagues (2012a; 2012b) also demonstrate an independent elevation in risk linked with certain diagnoses, particularly among women.

The body of literature investigating suicide risk in the context of physical illness suggests that health care professionals working across all medical specialties should be vigilant for signs of undetected psychological symptoms. There are limited studies investigating physical health and suicide. Webb and colleagues (2012a) used the CPRD which uniquely provides a large, detailed, and nationally representative computerised cohort of primary care-treated mental and physical illness, with complete linkage and follow-up of cause-specific mortality. Investigation of rare exposures and events is possible, and biases that have commonly flawed epidemiologic studies are minimized. However, other medical conditions may have been missed due to the coding system which read codes for the generic reference grouping. Therefore some cases may get missed if they are not coded in the same way as the generic

reference. Additionally the CPRD could not read codes for patients who had an undiagnosed depressive disorder or patients who did not seek treatment for depression. The CPRD may also have missed data that was completed on patient records prior to the computerised era.

Overall, previous findings suggest the importance of GPs assessing patients who consult in primary care with chronic physical illness and/or depression for suicide risk. The Department of Health highlights this recommendation for primary care in the latest suicide prevention strategy (DH, 2012).

2.3.3 Non-consultation

Even though a high percentage of patients are seen within primary care in the months prior to suicide, it is important to discuss those individuals who do not consult in the months prior to death (NCISH, 2014; Hamdi *et al*, 2008; Owens *et al*, 2005; Haste *et al*, 1998). These patients account for approximately 29% to 50% of all suicides in primary care settings (NCISH, 2014; Hamdi *et al*, 2008; Owens *et al*, 2005; Haste *et al*, 1998). The National Confidential Inquiry reported that suicide risk was increased by 67% in non-attenders in primary care and those non-attenders were more likely to be male and were younger in both genders. Non-attendance was also associated with lower rates of mental health diagnosis (NCISH, 2014). Comparable findings have been reported in a psychological autopsy study of 66 patients where 50% of individuals who died by suicide had not consulted with a GP in the month prior to death (Owens *et al*, 2005). They also reported that non-consulters were more likely to be male than female (56% v 38%).

The reasons why patients were not receiving mental health care in primary care or specialist mental health services prior to suicide are unclear. However, suicides in non-attenders may

take place to a considerable extent outside the current boundaries of primary health and social care systems and many have a different risk factor profile to other people who have died by suicide. They may be similar to people who do not seek medical help more generally. For example young, male patients are known to engage with GPs less prior to suicide (Luoma *et al*, 2002; Stanistreet *et al*, 2004), particularly for mental health problems (Hunter *et al*, 2012) and male patients may have an attitude that they do not need help from health professionals (Owens *et al*, 2005) or may be avoiding doctors (Luoma *et al*, 2002). One study reported the lack of (or non-detection) of a psychiatric disorder by primary care, or problems accessing secondary care services (Owens *et al*, 2003); however, others have reported the rate of detection and treatment of mental health problems in primary care to be high (Owens *et al*, 2004; Power *et al*, 1997).

Suicide prevention in people who have not attended in primary care is clearly difficult. GPs cannot assess people who do not attend in primary care. Although non-consultation data for patients in primary care is important, future work may need to focus on data from other services (e.g. drug and alcohol services, NHS walk-in centres, A&E, educational facilities, voluntary sectors) that non-attenders access in order to identify other potential avenues for prevention.

2.3.4 Section summary

- Comparatively few primary care patients die by suicide
- Patients who die by suicide consult more frequently in primary care than controls but risk is also increased in people who do not consult
- Patients with a psychiatric diagnosis consult more frequently than controls in the month prior to suicide

- Depression is the most common psychiatric disorder with which patients present to their GPs and is a robust risk factor for suicide
- Substance misuse is a common diagnosis for individuals who have died by suicide
- There is a strong association between elevated suicide risk, chronic physical illness and depression
- Approximately one third of patients do not consult in primary care in the year leading up to suicide
- Patients who did not consult with their GP were more often young, male and have lower rates of psychiatric diagnosis

2.4 Assessing suicidal risk in primary care

Despite the emphasis placed on primary care in suicide-prevention strategies, studies have in general found low levels of assessment of suicide risk among patients treated in primary care (Schulberg *et al*, 2004; Bryan *et al*, 2008). Although previous studies have reported on consultation data prior to suicide (NCISH, 2014; Rodi *et al*, 2010; Luoma *et al*, 2002; Pirkis *et al*, 1998; Haste *et al*, 1998; Power *et al*, 1997; Matthews *et al*, 1994), none have recently reported on suicidal ideation at final consultation assessed through interview or screening tools. There is strong evidence suggesting that people who die by suicide are more likely to have seen a primary care provider (45%) rather than a mental-health provider (20%) prior to their death (Denneson, 2010; Pirkis and Burgess, 1998); however, suicide-related discussions in primary care appear to be rare (Isometsa *et al*, 1995; Appleby *et al*, 1996; Vannoy and Robins, 2011).

GPs are seldom alerted to a patient's thoughts of ending his/her life by pre-suicidal visiting patterns alone. On occasion, patients spontaneously disclose information triggering concern. Studies suggest disclosure in 3.3-11% of consultations prior to suicide (Matthews *et al*, 1994; Isometsa *et al*, 1995; Vannoy and Robins, 2011). However, in an interview study, GPs reported that more patients were at risk than were recorded in the medical records alone (Isometsa *et al*, 1995). These are similar to previous findings (Diekstra and van Egmond, 1989). Appleby and colleagues (1996) conducted a retrospective case note study in 167 young people who consulted in primary care prior to suicide and reported low levels of assessment or recognition of suicide risk in only two cases - in both suicide risk was noted to be insignificant. However, this study relied on retrospective case notes and therefore some of the information regarding a patient's risk assessment may not have been recorded by GPs on the medical notes or may not have been interpreted correctly by researchers.

Another study reported that suicidal ideation was present in a significant proportion of depressed primary care patients who completed the Patient Health Questionnaire (PHQ-9) but that this was rarely discussed in consultations (Vannoy and Robins, 2011). These findings suggest that GPs may not be recognising patient's risk in primary care consultations. More in-depth research is needed into the content of primary care consultations for suicide cases and matched controls to see if there are any differences that may alert GPs of a patient's risk.

Studies have reported the belief that suicidal ideation can be 'induced' by screening but critics have described such beliefs as a myth (Gillmore and Chan, 2004). In the United States, the impact of screening for suicidal ideation was tested in a randomised trial among high school students (Gould *et al*, 2005). Students who completed a questionnaire which asked about suicidal thoughts were no more likely to have such thoughts two days later, than those

who did not complete baseline screening. Few experimental research studies have examined the impact of screening for suicidal ideation in primary care settings. Crawford and colleagues (2011) conducted a multicentre, single-blind, randomised controlled trial with 443 patients in four general practices who were randomised to screening for suicidal ideation or control questions on health and lifestyle. Although previous studies in primary care have been criticised for failing to consider the harm they can do (Getz *et al*, 2003), this study reported that screening for suicidal ideation in primary care among people who have signs of depression did not appear to induce feelings that life is not worth living (Crawford *et al*, 2011). However, although these data provide evidence that screening for suicidal ideation does not have an impact on the likelihood of subsequent suicidal ideation, they do not provide information about how patients feel about being asked such questions.

A study in the UK, by Bajaj and colleagues (2008) aimed to examine GPs' and patients' attitudes to screening for suicidal ideation and behaviour through a cross-sectional telephone survey with 101 patients and 103 GPs. A minority of patients (n=4) and GPs (n=1) stated that asking or being asked such questions made them feel uncomfortable or may 'open a can of worms'. Four out of ten GPs had received formal training on the assessment of suicide risk and barriers to screening included time pressures, culture and language, and concerns about the impact that screening could have on people's mental health. Perhaps surprisingly 25% of GPs and 20% of patients supported the notion that screening for suicidal ideation could induce a person to have thoughts of self-harm. The study used a qualitative design; an approach which could be argued increased the utility of their findings. The thematic analysis reported that enhanced GP sensitivity to a patient's distress and an assessment during consultations prior to suicide would prevent the death through timely interventions such as frequent monitoring or psychiatric referral. They also highlighted the importance of cultural

factors such as religion, cultural attitudes to suicide and language barriers when screening for suicidal ideation and behaviour (Bajaj *et al*, 2008).

Studies to date have reported low levels of risk assessment in primary care. The reasons for low assessment rates are: (1) GPs are not recognising symptoms when patient consult; (2) GPs do not want to ask patients about suicidal ideation as they may induce feelings that life is not worth living; (3) ethics committees may sometimes be reluctant to approve research for suicidal ideation; and, (4) patients are not displaying suicidal behaviours or different risk factors to the general population in primary care consultations.

Although research is sparse for risk assessment in primary care and each study adopted different paradigms and used differing sample populations, it seems plausible that there may be benefit in training GPs to assess suicide risk as part of their general training in the assessment and treatment of mental disorders, particularly depression. This might include training in the use of tools such as the PHQ-9 for the recognition of depression and suicidal ideation. More research is needed to examine what effect, if any, screening for depression and suicidal ideation has on mental health. There is no evidence that simply inquiring about suicidal ideas is harmful. GPs should assess the risk of suicide among vulnerable patients, including those with depression and other mental disorders.

2.4.1 The assessment strategies used in primary care to detect suicidal risk

In primary care it is important for GPs to be clear about the basic ideas underpinning the notion of a patient's risk. Health and social care policies aim to promote good clinical practice through the assessment and management of patients at risk (Gilbert, 2011; Morgan, 2007; DH, 2007; NICE, 2004, 2009). Risk assessment involves working with patients to help

investigate each of the following areas: information about the patient's history of violence; self-harm or self-neglect; their relationships including history of current or past abuse and any recent losses or problems; employment and any recent difficulties; housing issues; their family and the support available; and their more general social contacts could all be relevant. Once all of the information is gathered it is synthesised and drawn together for formulating the risk management plan.

Risk management then involves developing one or more flexible strategies aimed at preventing the negative event from occurring or, if this is not possible, minimising the harm caused. Risk management must include a set of action plans, the allocation of each aspect of the plan to an identified profession and a date for review. Furthermore, a clinically focused assessment of suicidality is pertinent and may be more successful when the patient exhibits and acknowledges well-defined risk factors; however, false-negative clinical decisions may ensue when these risk factors are absent or not endorsed by the patient. In these situations, a GP can judge the patient's degree of suicidal risk within a more comprehensive framework of non-psychiatric factors possibly influencing the potential lethality of his/her actions (e.g. the extent of social supports and other pertinent life circumstances). There are various scales to assess suicide risk that cover mental health state, symptoms and intent. Currently in the UK, the NICE guidelines (NICE, 2009) recommend that GPs use the PHQ-9 and the biopsychosocial assessment form to assess for a patient's suicide risk in primary care. However the use of risk scales to assess suicidal risk is controversial because of the comparatively low base rate of suicide, the poor predictive value of current instruments, and the fact that even those rated as at low risk may go on to have adverse outcomes (NICE 2011; Quinlivan *et al*, 2014).

2.4.1.1 Patient Health Questionnaire-9

The PHQ-9 is a multi-purpose instrument commonly used by GPs for screening, diagnosing, monitoring and measuring the severity of depression. The PHQ-9 has been shown to have good validity for detecting depression in many groups, is easy to administer (Martin *et al*, 2006; Huang *et al*, 2006; Simon *et al*, 2013) and contains one item that assesses suicidal ideation: “Thoughts that you would be better off dead or of hurting yourself in some way”. This is a brief depression screening tool in clinical practice that takes minutes for the patient to complete and the GP to score. It can be administered repeatedly, which can reflect improvement or worsening of depression in response to treatment.

Uebelecker and colleagues (2011) conducted a cross-sectional study with 166 patients from two primary care clinics in two regions (urban and suburban) in the USA to assess the validity of the suicidal ideation question on the PHQ-9. Of the total participants, 101 were enrolled in the survey study, and 65 were screened for or enrolled in either an open trial or a pilot randomized controlled trial. The sample of participants all had an elevated level of depression symptoms (i.e. total PHQ-9 score ≥ 10), meaning that the results were primarily generalisable to the use of the PHQ-9 in a targeted (depressed) population. This study repeated previous findings on the validity of the tool but highlighted some issues with the use of the questionnaire. Firstly, it relies on patient self-report of suicidality as well as the judgment of the interviewer or clinician. Secondly, its use in studies may be different from its use in community primary care practice settings. Additionally, due to the imperfect sensitivity of the suicide item, clinicians should use caution in interpreting negative diagnostic results. If a patient denies suicide on the PHQ-9, but there other significant risk factors for suicide are present (e.g. a recent history of suicidal behaviour), it would be important for a clinician to probe further. The routine use of the PHQ-9 as a screening

instrument in primary care may identify patients with suicidal thoughts who would not otherwise have been identified and thus allows the opportunity for intervention to reduce suicidal ideation and prevent suicide.

2.4.1.2 Biopsychosocial assessment

Another assessment tool used by GPs is the biopsychosocial assessment (The Quality and Outcome Framework [QOF], 2011). Since 2011, new proposals suggest that GPs in the UK will be required to review all patients with depression within a month of diagnosis and make a ‘biopsychosocial’ assessment. The assessment includes such things as the patient’s living conditions and social support. There are 16 ‘themes’ in the biopsychosocial analysis including the patient’s symptoms, any use of alcohol and/or substance, suicidal ideation and any family history of mental illness. GPs also have to look at other aspects of the patients life, such as interpersonal relationships, an assessment of social support, their living conditions, whether they have any employment or financial worries and discuss treatment options with them.

GPs are expected to follow up patients who have been diagnosed with depression either face-to-face or by telephone. However, the guidance does highlight that GPs should feel confident in conducting the test and follow up of patients. This implies that regular training should be available to GPs with the use of such tools (QOF, 2012). Psychosocial assessment is expected to be utilised by healthcare professionals as a management tool to determine how to manage a self-harm presentation and what care can be offered as a means of engaging service users in further care (NICE, 2004). However, most of the research that has been conducted is following self-harm and psychosocial assessments in hospital ED settings (Kapur *et al*, 2002, 2008, 2013). One study, to date, is available in the literature that tests the validity of the use

of psychosocial assessments and other tools in primary care (O’Conner *et al*, 2013) and is discussed next.

2.4.1.3 Use of screening instruments in primary care

A review by O’Connor and colleagues (2013) investigated the accuracy of screening instruments and the efficacy and safety of screening for and treatment of suicide risk in populations and settings relevant to primary care. Primary care has an important role in identifying those in need of treatment and referral to specialist services, as well as attending to the physical health needs of patients with a history of suicide attempts. The review highlighted that most of the literature was in high-risk populations, and so the generalizability of these results to populations detected by screening is yet unknown. There was also very little evidence on the effectiveness of treatment in older adults and racial or ethnic minorities.

Research suggests that it is very difficult to predict who is at risk of dying by suicide due to the inherent difficulties in predicting low risk events and establishing the effectiveness of treatments to reduce suicide and suicide attempts. One randomised control trial conducted in the UK (Bennewith *et al*, 2002) reported on the effectiveness of delivering primary care based interventions to patients following a recent self-harm incident recorded at ED’s. Patient data were obtained from the ED records and GP practices were recruited across the region of Bristol and Bath. The intervention comprised a letter from the GP inviting the patient to consult, and guidelines on assessment and management of self-harm for the GP to use in consultations. Control patients received usual GP care.

The findings showed that primary care based interventions did not reduce the incident of further self-harm; an increase was reported in the intervention group. A limitation that may

have reduced the capacity of the intervention was that mainly larger training practices agreed to participate in the control group; thus patients in control practices may have already been receiving better care compared to patients receiving care in smaller practices. Additionally, patients may have needed a more person-centred approach delivered by specialist mental health professionals rather than GPs. A descriptive study which includes service user experiences may provide more detailed information about the mechanisms by which primary care based interventions might work.

Overall, the limited evidence suggested that primary care screening instruments may be able to identify adults at increased risk of suicide, and subsequent psychological therapies targeting suicide prevention could be effective treatment in adults. More research is needed on the effect of primary care based interventions and psychotherapy to prevent suicide attempts in patients who screen positive for suicide risk, as well as whether treatments actually lead to lower suicide death rates, even in high-risk populations.

Re-Engineering Systems for Primary Care Treatment of Depression (RESPECT-D) sought to improve patient outcomes by disseminating the 3-component model (TCM) of depression management in primary care (Oxman *et al*, 2002). The TCM is an evidence based model implemented through existing quality improvement programmes based in health plans and medical groups. The model's three components were: firstly, the preparation of primary care practices and clinicians to provide systematic depression care; secondly centrally based care managers were to provide telephone support to patients and communicate with their primary care clinicians; and thirdly, there was to be supervision of care managers by psychiatrists who were also available to provide informal advice to GPs. Within the model, the PHQ-9 was administered by the GP as part of the initial diagnostic assessment, either when depression

was suspected or when depression treatment was being modified. It was then used to monitor treatment response and guide treatment changes. The TCM does not promote the use of the PHQ-9 as a broad screening tool, but as a means of systematising diagnosis and monitoring across the 3 components of the model.

The model was evaluated through a multisite randomised controlled trial (RCT) called RESPECT-D RCT (Deitrich *et al*, 2004). The trial demonstrated that a significantly greater proportion of intervention patients experienced improvement in depressive symptoms and achieved remission at 6 months compared to those receiving standard care. These findings are consistent with a growing body of literature that demonstrates that integrating aspects of mental health care within primary care settings improves outcomes for patients with depression (Lee *et al*, 2007). As many interventions aimed at improving systems of depression treatment in primary care have relied on grant-funded research, their sustainability beyond the financial support of the research project has been limited (Bachman *et al*, 2006).

2.4.1.4 Zero suicide toolkit

The Zero Suicide concept from the US is a commitment to suicide prevention in health and behavioural health care systems, and also a specific set of tools and strategies (NSSP, 2012; Coffey, 2007). Their goal is to “*Promote the adoption of ‘zero suicides’ as an aspirational goal by health care and community systems. The Perfect Depression Care program provides an example of this promising approach*” (NSSP, 2012). Its core propositions are that suicide deaths for people under care are preventable, and that the goal of zero suicides among persons receiving care is a challenge that health systems should accept. The focus on suicide is on raising awareness and trying to make services as good as they can be. This approach aims to improve care and outcomes for individuals at risk of suicide in health care systems. It

represents a commitment to patient safety and also to the safety and support of clinical staff that do the demanding work of treating and supporting suicidal patients. However, the challenge is not one to be borne solely by those providing clinical care. Zero Suicide relies on a system-wide approach to improve outcomes and close gaps rather than on the heroic efforts of individual practitioners. Many of the principles are sensible but the focus on systems of care is not new (NCISH 2014).

In the UK, pioneering health workers in Liverpool, the south-west and in the east of England are already re-thinking how they care for people with mental health conditions to achieve this ambition for ‘zero suicides’ in our own health service (DH 2014). The ‘zero suicide’ ambition is about changing how people in the NHS are treated, so that they are not forgotten when they move or leave the service they have been in. The aim is for this to be done in close collaboration with GPs, other specialist providers, commissioners, public health experts and others.

The methods may include (DH, 2014):

- keeping in touch with patients who move back home after being on a ward
- having a personal safety plan in place so that patients, family and friends know what to do and where to go for help if they need it and have regular contact with someone they know and trust
- bringing safety systems in line with treatment for physical health – for example, designing a process for any member of staff to follow if a patient is at high risk of suicide. This would tell staff what to do, who to call, where to send the patient, and how to follow it up

- joining all services up so that patients who are at risk will not fall through the cracks – linking GP, carers and mental health services

Better performance and accountability for suicide prevention and care should be core expectations of health care programs and systems. While there is no proof that suicide can be eliminated in health systems, there is strong evidence that system-wide approaches are more effective (Coffey, 2007; NSSP, 2012). However, there are some questions about how transferable the model is to UK care system as there little research on the evidence of efficacy. There is a need for clarity on what the model looks like in the UK as the various pilot sites in the UK are all doing something different. Evaluation is vital and needs to be completed vigorously. Of importance, within the ‘zero suicide’ concept, there needs to be a distinct difference between ‘suicide is not inevitable’ (guarding against complacency) and ‘suicide must always be prevented’ (which is not a fair or realistic target). Zero needs to be seen as an aspiration, a recognition that services need to be as safe as possible but zero cannot be a target because then staff and service users may view each death as a failure of care, which will be negative for them and negative for any opportunities for learning.

2.4.2 Section summary

- Despite the emphasis placed on primary care in suicide-prevention strategies, studies have found low levels of assessment of suicide risk among patients treated in primary care
- Suicide-related discussions in primary care appear to be rare
- Risk assessment and management of suicidal patients is emphasized as a key component of care in specialist mental health services, but these issues are relatively unexplored in primary care services

- The biopsychosocial assessment, the PHQ-9, the zero suicide toolkit and other risk assessment tools are used to assess for suicide risk in primary care
- Limited evidence suggests that primary care screening instruments may be able to identify adults at increased risk of suicide, and psychological therapies targeting suicide prevention can be effective treatment in adults

2.5 Education and training of suicide prevention in primary care

Given the increased national attention devoted to suicide prevention (DH, 2012; 2002); educational programmes aimed at improving GPs recognition and management of suicidality are now comparatively common (Bajaj *et al*, 2008). However, few such educational programmes have been evaluated with respect to their impact on population suicide rates. Additionally, educational programmes will be unable to have a direct impact on patients who do not consult in primary care. Nevertheless, education and training of suicide prevention in primary care is important and the following sections will review training packages available in the UK and internationally.

Two of the most widely used prevention training packages in the UK are the Skills Training on Risk Management (STORM; Morriss *et al*, 2005) and Applied Suicide Intervention Skills Training (ASIST; Dolov *et al*, 2008) and gatekeeper training programmes. Gatekeeper training teaches specific groups of people to identify people at risk for suicide and then to manage the situation appropriately. Evaluation of these packages has produced mixed results. The evidence indicates that STORM and ASIST can lead to significant improvements in

attitudes and confidence of participants, but acquisition of skills in STORM training and long term effects of both packages were sometimes questionable. With STORM, there was a strong possibility of bias, with all evaluations carried out by those involved in the development of the package, and the evaluation data was collected by the individuals who had delivered the training (Morriss *et al*, 2005). For ASIST, Dolov *et al* (2008) reported that the extent to which firm conclusions can be drawn about the effectiveness of the package is limited. In a study of ASIST training for local community members in Canada, Sareen and colleagues (2013) concluded that the lack of efficacy of the training was concerning.

Rutz and colleagues (1989) reported that suicide rates in Gotland were significantly lower than elsewhere in Sweden after GPs increased their skills in diagnosing and treating affective disorders through an educational programme. Disappointingly, however, the Gotland suicide rate resembled that for the rest of Sweden 3 years later (Rutz *et al*, 1992). Further analyses of the study's data revealed that the educational programme significantly reduced the number of female but not male suicides (Rutz *et al*, 1997). This suggested that suicide prevention programmes needed to be further refined to be gender-specific and needed to be repeated periodically if they were to be effective.

Studies reporting on the effectiveness of educating and training health professionals for reducing patient suicide rates that have been done have rarely focused on single healthcare professionals. A series of well-known studies did focus on GP training (Rutz *et al*, 1992; Rihmer *et al*, 1995; Szantos *et al*, 2007). Articles including more than one professional in a single study generally focused on 'frontline' providers such as STORM. This study conducted in the UK, included training for risk assessment and immediate management was provided to frontline health professionals including primary care, A&E and mental health

workers. Although, the training did not reduce suicide rates (Morriss *et al*, 2005), it did show improvements in provider skills, attitudes and confidence related to suicide risk.

Some of the difficulties relating to training programmes include problems in retaining trainers, financial constraints, the resistance of some staff to attend training (especially some of the more senior staff) and organisational resistance (Griesbach *et al*, 2008; Gask *et al*, 2006). The 2008 ‘Choose Life’ evaluation noted that ASIST was perceived to be an expensive course and that training trainers, with coaches often brought in from abroad, was a big expense. Supporting the development of local coach training teams for STORM and ASIST and others would help reduce costs and also enhance local relevance (Griesbach *et al*, 2008). Questions have also been raised about trainer competency (Cross *et al*, 2014). The long term effect of suicide prevention programmes is often uncertain, and some have reported that their effects have not lasted over time, suggesting that regular refresher training is needed (Isaac *et al*, 2009; Gask *et al*, 2006), which is consistent with previous findings (Rutz *et al*, 1997).

Existing research evidence suggests that suicide prevention training geared to healthcare professionals generally may have positive effects on (i.e. reductions in) patient suicide rates and behaviours and does not have any reported negative effects on patients. A recent review of suicide prevention programmes concluded that training even single healthcare professionals can have an impact on suicide rates as well as suicidal behaviour (Department of Health, Washington [DOH], 2013). Although the reviews are informative, it is not known which training components produced the desired outcome of reducing suicide rates as many of the studies are universal or multifaceted educational interventions. Overall, however, the effectiveness of GP training-specifically on suicide rates has been equivocal. Some showed

significant reductions (Rutz *et al*, 1992; 1997), another significant reductions in women aged over 85 years only (Chan *et al*, 2011), others did not show significant reductions in overall rates (Rihmer *et al*, 1995; Hegerl *et al*, 2006; Henriksson *et al*, 2006; Roskar *et al*, 2010; Isaac *et al*, 2009; Gask *et al*, 2006) although one showed more reductions in women than men (Henriksson *et al*, 2006).

To date, much research in primary care has focussed on training GPs to identify, manage and assess suicide risk (O'Connor *et al*, 2013; Schulberg *et al*, 2004; Mann *et al*, 2005), particularly in patients with a diagnosis of depression (McDowell *et al*. 2011, Milton *et al*. 1999, DH 2011). It may be that combining educational programmes with better access to depression treatment has a greater impact on reducing suicide mortality (Szantos *et al*, 2007) compared with use of educational programmes alone. In 2001 the Nuremberg Alliance Against Depression [NAAD] was initiated as a community-based model project within the large-scale German Research Network on Depression and Suicidality. The NAAD was an action programme, conducted in Nuremberg (500,000 inhabitants) in 2001/2002, addressing four intervention levels (Hegerl *et al*, 2006). The four levels included: *Co-operation with primary care* (training courses and support for GPs and primary care teams on how to recognise and treat depression in the primary care setting); *Public relations; general public awareness raising* (large scale public awareness campaigns to inform the general public about depressive disorders in order to reduce stigmatisation and to encourage people to seek help); *Support for patients and relatives* (initiatives are started to introduce local self-help groups supported by expert advice. Links between health services and voluntary sector organisations are established or strengthened); and, *Co-operation with 'multipliers', community workers or facilitators* (training courses for professionals and other members of the community who are likely to come into contact with people experiencing emotional

distress to raise awareness about depression and how to recognise it, and to provide knowledge of potential sources of help for people with depression).

Based on the positive results of the project (a significant reduction of suicidal behaviour by more than 20%), 18 international partners representing 16 different European countries established the European Alliance Against Depression (EAAD) in 2004. Based on the four-level approach, all regional partners initiated respective regional intervention programmes addressing depression and suicidality. Given the high rate of depression amongst those who die by suicide and that many people with depression do not seek help, the EAAD aims to raise awareness and enhance treatment for people with depression by widely implementing the 4-level community-based intervention programme throughout Europe. EAAD has been evaluated on regional and international levels and was mentioned as a best practice example within the Green Paper for improving the mental health of the population (European Commission, 2005). The evaluation has shown how a community based intervention can be successfully implemented in one health board area using a multi-agency team to realise a given framework in their local context.

2.5.1 Section summary

- The effectiveness of GP training-specifically on suicide rates has been equivocal
- No studies report negative effects on patients following suicide prevention training for health professionals
- Educational programmes may have more impact on reducing the number of female compared to male suicide deaths
- Regular training at time intervals is required for GPs as the rates

of suicide may increase again once training ceases

- Combining educational programmes with better access to depression treatment may have a greater impact on reducing suicide mortality compared with use of educational programmes alone
- Community-based action programmes have shown significant reductions of suicidal behaviour and have been implemented as part of the European Alliance Against Depression

2.6 The management of patients in primary care prior to suicide

The main treatment used by GPs to manage patients with psychiatric health issues (who may be suicidal), is psychotropic medication and/or referral to mental health services within primary or secondary care. These may include graduate mental health workers (GMHW), Improving Access to Psychological Therapies (IAPT) services, community mental health teams (CMHTs) or crisis resolution teams. Given the high rate of mental illness among those who die by suicide, an underlying mental health diagnosis (e.g. depression) is often an important treatment target for primary care.

2.6.1 Psychotropic medication

The far more common intervention for depression in primary care is pharmacotherapy; 16% to 48% of suicide attempters or completers had previously been prescribed an antidepressant medication (NCISH, 2014; Rodi *et al*, 2010; Conwell *et al*, 2000; Diekstra and Edmond, 1989). Although a recent study in the UK suggests poor recognition of mental illness in primary care prior to suicide (NCISH, 2014), it is perhaps encouraging for patients in whom

mental illness, particularly depression is recognised that rates of treatment with antidepressants have increased markedly between 2000 and 2009 from 21-65% (Menchetti *et al*, 2011), although wide variation in pharmacological treatment persists. Menchetti and colleagues (2011) reported that this increase has coincided with a fall in rates of suicide, leading some researchers to suggest a causal association. However, a review conducted by Gunnell and Ashby (2004) reported that there is no strong evidence that an increase in antidepressant prescribing is behind the reduction in suicide rates. A recent case-control study reported that patients who died by suicide were 7 times more likely to have been prescribed antidepressants than controls (NCISH, 2014), thus suggesting a negative association with antidepressant medication and suicide, which was probably accounted for by confounding by indication. That is, the higher risk patients being prescribed medication.

A series of case reports published two decades ago (Teicher *et al*, 1990) sparked concerns regarding a possible link between SSRIs and suicidal thoughts and behaviour, though this remains to be conclusively proven or disproven (Gunnell and Ashby, 2004; Healy, 2003; Healy *et al*, 1999; Khan *et al*, 2003). From the population perspective, the risks and benefits of antidepressants are unclear. Any antidepressant induced suicides may be offset by the beneficial effects of antidepressants on depression and long term suicide risk associated with untreated depression. The low toxicity of some antidepressants classes (e.g. SSRIs) in overdose will have prevented some suicides. The balance of risks and benefits may vary depending on an individual's underlying suicide risk. For patients with conditions that have a high risk of suicide, such as severe depression the risk-benefit balance may be more favourable than for patients with conditions such as anxiety and mild depression, in which suicide is rare. It is in these lower risk conditions, however, that much of the recent rise in prescribing has probably occurred (Gunnell and Ashby, 2004).

Antidepressants can also be used in combination with antipsychotics and drugs to treat mania, bipolar disorder and psychotic depression. The concept of symptom severity is central to the treatment of depression. Whilst antidepressants have been found to be beneficial in treating moderate to severe depression, they are not recommended for mild depression (NICE, 2009a). This contrasts with previous study findings where medications were being prescribed more for mild depression (Hyde *et al*, 2005; Gunnell and Ashby, 2004). Psychosocial or psychological therapies are usually recommended, rather than antidepressants, for the treatment of mild to moderate depression (NICE, 2009a). However, previous studies have reported that prescribing may be a response to the lack of therapies available to GPs (Hyde *et al*, 2005).

There is always a risk of unwanted side effects from psychotropic medications and a negative first experience can have consequences for future medication adherence and may even lead to an increased risk of suicide. Additionally, whilst antidepressants do not lead to physical dependence, it has been known for years that patients may experience unpleasant effects on reducing, missing doses or stopping antidepressants, such as dizziness, mood changes, gastrointestinal disturbances and insomnia (Dilsaver & Greden, 1984). Thus, it is recommended that doses are tapered gradually over a period of weeks on stopping to avoid discontinuation effects (Anderson *et al*, 2008; MHRA/CSM [Medical and Healthcare Products Regulatory Agency/ Committee on Safety of Medicines] expert working group, 2004).

The value of training GPs to prescribe antidepressants within guideline standards has been suggested in studies reporting an inverse relationship between a population's being prescribed

antidepressant medications and its suicide rate (Roskar *et al*, 2010; Szanto *et al*, 2007; Henriksson and Isacson, 2006; Olfson *et al*, 2003). However these are ecological studies based on aggregate data and may be prone to confounding factors. An association cannot be taken as indicating a causal relationship. In addition, it is not evident from primary care studies whether suicidal patients prescribed an antidepressant overdose on it (Healy, 2003). Most trials of antidepressants exclude individuals who are suicidal. Depression is a common and disabling condition that is predominantly treated and managed in primary care, and so the safety of drugs used in its management is crucial. Future trials of antidepressants need to be of substantial duration in order to detect longer term benefits of this class of drug and balance these against possible suicide risk. It would also be beneficial to collect data on suicidal thoughts and behaviour. Long term studies are required to assess the effect on suicide rates internationally of recent rises in antidepressant prescribing.

2.6.2 Psychological therapies and alternatives to psychotropic medicines

The previous sections have shown that whilst many people do benefit from psychotropic medicines, they do not work for all people with mental illness and thus should not be regarded as a panacea. People with mental illness often feel there is too much focus on symptoms and medication (NIMHE, 2008). Furthermore, in some people medicine taking can erode feelings of self-control and provoke feelings of guilt or shame (Khan *et al*, 2007). Though important, psychotropic medicines are just one aspect of care for people with mental illness. This section will briefly consider the use of psychological therapies for mental illness and suicide prevention which may be used as alternatives or adjuncts to psychotropic medication.

2.6.2.1 Improving Access to Psychological Therapies (IAPT)

Talking therapies are a major element of the UK government's new mental health strategy, No health without mental health (DH, 2011a). In a supporting document published alongside the strategy (DH, 2011b), the government has outlined plans to invest approximately £400 million in talking therapies over a four year period, enabling an estimated 1.2 million people to access services. Improving Access to Psychological Therapies (IAPT) is a core component of these plans, targeted primarily at people with depression and anxiety disorders (including post-traumatic stress disorder [PTSD], panic disorder and social phobia).

IAPT was intended to enable PCTs to implement NICE clinical guidelines that strongly support the use of certain psychological therapies (NICE, 2005a, 2005b, 2009a, 2011).

Layard and colleagues (2007) established an economic basis for IAPT, arguing that treatments could improve rates of employment and reduce incapacity benefit costs and service costs could potentially be recouped within as little as two years. Thus, IAPT services were created to form a realistic first-line treatment for people with common mental health problems that could be offered as an alternative to, or in combination with, medication (National Collaborating Centre for Mental Health, 2010).

It has been suggested that IAPT improves quality of life and reduces symptoms of depression and anxiety (DH, 2009b). The introduction of IAPT could have an impact on future suicide prevention within primary care as psychotherapies, including cognitive behavioural therapy (CBT), problem solving therapy, dialectical behaviour therapy and interpersonal psychotherapy, may be effective in the treatment of suicidal patients (Salkovskis *et al*, 1990; Brown *et al*, 2005). Debriefing after suicide attempts may help reduce subsequent morbidity (Power & McGowan, 2011; Schwartz, 2000). Even where the attempt is not recent it may still

be helpful to provide a form of debriefing to assist the person with coming to terms with what happened, understanding the reasons behind it and hopefully learning ways of preventing it happening again. However, it is known from the literature on post-traumatic stress disorder that debriefing is not always helpful (Wessley and Deale, 2003). It is essential to respect the healthy level of denial that some patients need to maintain. Repeatedly reigniting memories might in itself be potentially traumatising (Power & McGowan, 2011).

2.6.2.2 Other psychological treatment approaches

A wide variety of psychological treatment interventions are used to reduce suicide risk (O'Connor *et al*, 2013). Some cognitive interventions have been shown to reduce the rate of suicide in controlled trials. However, such findings are few and their effect appears to be small (Power *et al*, 2003).

Despite relatively small sample sizes for a low-base rate outcome, findings from previous research indicate that psychosocial treatments hold promise to reduce risk if future suicide attempts in patients are identified as high risk for suicidal behaviour (Hunter *et al*, 2012; Comtois and Linehan, 2006; Williams *et al*, 2008). However, one study that offered a brief self-administered CBT manual plus up to seven in-person sessions, to individuals admitted to emergency rooms for suicide attempts, found no differences between patients who had the CBT treatment and patients who had usual care (Tyrer *et al*, 2003). Other psychological interventions may reduce the risk of suicide by addressing co-morbid conditions such as social anxiety, substance and alcohol use disorders. The NICE guideline on self-harm (2011) highlights both the importance of treating underlying psychiatric disorder and also the potential benefits of offering 3- 12 sessions of psychological therapy.

2.6.3 The influence of societal factors

The influential role of social factors in the aetiology of suicide was highlighted by Durkheim (Durkheim, 1897), whose model of suicide focuses on two social forces, social integration and moral integration. According to Durkheim, changes in suicide rates at the societal level will occur when these forces become too strong or too weak. Psychological theorists have also proposed causal roles for social factors, but in contrast to sociological theorists, such as Durkheim, they emphasize connections at the individual level, rather than connections with society. Most of these theories focus on familial relationships. Feeling isolated from family members, experiencing family discord, and perceiving oneself to be a burden on family members are all social factors posited by psychological theorists to be involved in the aetiology of suicide (van Orden, 2010). Common themes from these diverse theorists are that positive social connections may be protective against suicide, whereas discordant or overly strong connections may elevate risk for suicide. Social factors interact with characteristics of individuals to influence the risk for suicide. For example, a functionally impaired older adult may find a sense of connectedness to a religious community which often provides an important channel for social interaction, even for those who cannot physically attend services (Fassberg *et al*, 2012).

Societal factors may influence the management of patients in primary care prior to suicide. These may include cultural norms, attitudes, health, education, alcoholism, social isolation and socioeconomic status (Younes *et al*, 2013; Fässberg, 2012). Due to stigma and social norms many at-risk people, especially men, do not avail themselves of treatment (Rickwood *et al*, 2007). Primary prevention may be particularly useful in alleviating risk among individuals, who, for whatever reason, do not access mental health services. Guided by a behavioural model of health, the main targets of primary prevention programs are typically

health behaviours and health decision-making for alcohol, tobacco, drug use, maintenance of a healthful diet, exercise, and safety (Younes *et al*, 2013). A further understanding of the complex and multi-factorial nature of the influences on social and emotional wellbeing and illness is needed.

Partnerships between government departments and the community may provide the capacity to address these multiple factors. Immediate risk management needs to be present as an acute response, but it is only one element in a range of strategies that also focus on early intervention, prevention, and on addressing the social determinants that lead to mental wellbeing or illness. Interventions are particularly needed to prevent suicidal behaviour also among those with no prior history of suicidal behaviour, those who do not seek psychiatric treatment and those who gain support from family or friends, followed by primary care (Rickwood *et al*, 2007). Such programs would involve collaborations among social scientists, healthcare professionals, community groups including religious leaders, and experts in environmental planning and design. For examples, programs may include interventions for increasing physical activity, reducing social isolation, healthy eating campaigns.

2.6.4 Section summary

- Mental illness is a major risk factor for suicide
- Most psychiatric disorders are managed in primary care or alongside mental health services
- Psychotropic medications are widely used to treat psychiatric disorders
- Critics of psychotropic medications have drawn attention to the harms caused by them and there are concerns over the reliance on medication
- There are a variety of psychological ‘talking therapies’ which can be used alongside, or as alternatives to, psychotropic medication in order to treat psychiatric disorders
- Cultural norms, attitudes, health, education, alcoholism, social isolation and socioeconomic status may influence the management of patients in primary care prior to suicide.

2.7 Referral pathways between primary care and mental health services

A fundamental part in suicide prevention is the GP’s decision-making processes following the assessment of patients in primary care. As the prevalence of mental illness is high in individuals who die from suicide (NCI, 2013), it may be particularly important to understand the referral decisions and processes between primary care and mental health services for patients at risk of suicide. Many psychiatric disorders such as depression and substance misuse are managed solely in primary care. Where GPs cannot manage patients in primary care, NICE guidelines suggest that they gain additional support and treatment for patients, from mental health services (NICE, 2004).

2.7.1 Decision-making process

Little is known about the decision-making processes in general practice, particularly with regards to suicidal patients. Some studies have reported referral rates from primary care to mental health services prior to patient suicides (NCISH, 2014) but none have investigated the process or reasoning behind these referrals. While a high quality primary care system is associated with improved population health, economic considerations can also be important. The cost-effectiveness of primary care interventions and delivery models can affect GPs decision-making for referring patients to specialist care services (Macinko *et al*, 2003; Godber *et al*, 1997).

In this section I have included findings from the more general primary care and mental health literature as there are few studies reporting on referral data from primary care for suicidal patients specifically. Previous quantitative research on referrals has identified patient, practice and doctor characteristics associated with variation of referral rates, including referrals to mental health services (Imison and Naylor, 2010; Boulis and Long, 2004; Franks *et al*, 2000). Existing studies on practice variation suggest that individual, organisational and institutional factors all play a role. Characteristics such as age and gender (Boulis and Long, 2004), and personal values and psychological profile have been reported as some of the factors affecting the variation in GPs medical decision-making (Franks *et al*, 2000).

GPs often report relying on their own intuition and judgements when dealing with the challenges and complexity of daily practice, rather than on published practice guidelines. However, practice guidelines, peers and colleagues can affect GPs decision-making processes (Fernandez, 2000); as well as the availability of resources such as specialists (Shipman *et al*,

2002). However, the recent organisation of primary care may have affected the availability of resources as the higher costs associated with the need for specialist secondary care may feature more highly than in the previous arrangements (Joint Commissioning Panel for Mental Health [JCP-MH], 2012). GPs decision-making may also be affected by primary mental health care teams being under-resourced to undertake pro-active and outreach work with at-risk groups who may be at risk of suicide.

2.7.2 Rates of referral

A further strategy available to GPs when managing a suicidal patient is referral to a psychiatrist or other mental health specialist (DH, 2012; NCISH, 2014). A case-control study conducted by the National Confidential Inquiry using the CPRD reported that only 24% of patients who died by suicide had contact with a mental health specialist at the time of their death and a further 8% were referred for specialist treatment by primary care. This is similar to previous findings where GPs referred a small minority of patients (9-13%) to specialised mental health workers, such as community mental health teams, psychotherapists or psychiatrists (Verhaak *et al*, 2012). Paradoxically, psychological autopsy studies suggest that the majority of people who die by suicide have a psychiatric disorder at the time of death (Harris and Barraclough, 1997; NCI, 2013). The discrepancy between the prevalence of disorder and how it is managed may be indicative of an identification, referral, or treatment ‘gap’.

There are limited studies assessing referral rates to specialist services for suicidal patients. Most previous studies have focussed on referrals with regards to psychiatric illness generally (Chew-Graham *et al*, 2007; Verhaak *et al*, 2012; Trude and Stoddard, 2003; Ashworth *et al*, 2002). For this reason the following sections will review those studies that have investigated

GP decision making processes for referrals for patients with mental health diagnosis. There are large variations between GPs in terms of referral rates to mental health services and their preferences concerning the discipline or institution to which they decide to refer patients. Practice size can affect the likelihood of GPs obtaining psychiatric referrals for patients and the number of available psychiatrists in an area (Trude and Stoddard, 2003).

The chances of being referred are not equal for all patients, as patients with severe psychiatric complaints will be referred relatively often compared to those with moderate complaints (Verhaak *et al*, 2012). Demographic characteristics can affect referrals as data suggests men are more likely to be referred than women and younger patients are more likely to be referred than elderly patients (NCISH, 2014; Cole *et al*, 1995; Burnett *et al*, 1999); even though men and younger patients are less likely to access services (Stanistreet *et al*, 2004). Previous studies also highlight that GPs face greater hurdles obtaining mental health referrals to secondary care than other medical services (Trude and Stoddard, 2003).

There are referral variations in patients from different ethnic backgrounds (McKenzie *et al*, 2001; Bhui *et al*, 2003). Studies of ethnicity and mental illness have focused on rates of treated mental illness primarily in hospital settings. There has been relatively little work in primary care settings and even less in community settings where there is the greatest burden of mental illness (Lloyd, 1998). McKenzie and colleagues (2001) reported differences for how patients from varying ethnic backgrounds are diagnosed and treated by GPs. One clinical study from the field of mental health showed that African-Caribbean patients were less likely to have received a diagnosis of anxiety or depression from their GP than other attendees and that these patients were more likely to receive medication as the primary form of treatment, rather than psychotherapy (McKenzie *et al*, 2001). African-Caribbean patients were

increasingly likely to attempt suicide (McKenzie *et al*, 2001) and Black women (African and African-Caribbean) showed the highest rate of presentations at EDs for self-harm in three cities in the UK (Cooper *et al*, 2010).

Among white British patients who died, GPs were more likely to correctly identify pure psychiatric illness and mixed pathology (McKenzie *et al*, 2001). On the other hand, Punjabi respondents with common mental disorders were more often assessed as having sub-clinical disorders and physical and somatic disorders (Bhui *et al*, 2001). However, suicide data from these studies needs to be viewed cautiously as ethnicity is not recorded on death certificates in the UK and can only be obtained through the use of naming software that may be inaccurate.

Ashworth and colleagues (2002) conducted a prospective observational study of outpatient psychiatric referrals made by all general practices (622 referrals from 29 practices) within the catchment area of one inner-city psychiatric service in the UK. The findings from this study showed that although no overall relationship between psychiatric referral rates and on-site mental health workers (MHW) was demonstrated, the highest referring practices had significantly lower MHW allocations. However, the study has a number of limitations as the study design was uncontrolled, and caution should be exercised in interpreting the lack of MHWs in high referring practices, particularly since cut-offs for high referral were not defined in advance. This finding may have been causal or, alternatively, high-referring practices may have been less willing to employ MHWs. Any effect of MHWs on referrals may be confined to practices with high levels of MHW input; however, there were few such practices in the study area. Referral rates varied widely between practices and yet a wide range of variables explained little of this variation.

A qualitative interview study with 23 GPs in the UK suggests that the dominant influence on psychiatric referral rates may well be individual GP attitudes, such as the characterisation of GPs into ‘conduits’ (who merely recognise and refer such cases to ‘experts’) and ‘containers’ (who aim to prevent an inappropriate referral burden by offering primary care interventions) (Nandy *et al*, 2001). However these findings also need to be interpreted cautiously as the sample of GPs that declined to participate had an overrepresentation of single-handed GPs.

Further research is needed in primary care that collates accurate ethnicity data and patient and GPs’ views on the management and treatment for suicidal risk. This will highlight the cultural factors that need to be taken into consideration when assessing and implementing interventions for differing population groups. Additionally, larger studies could usefully explore the interrelation between GP attitudes to the management of minor psychiatric illness and referral patterns in primary care. A wide range of quantitative variables explained very little of the referral rate variation, implying that more subjective factors, such as general practitioner attitudes, may be influential in the decision to refer a patient to mental health services. Descriptive studies are needed to explore GP decision-making processes for referrals to mental health specialists, particularly for patients who display suicidal behaviour.

2.7.3 Liaison between primary care and mental health services

Communication and liaison between primary care and mental health service providers is essential for effective referrals and treatment. A lack of communication can result in disruption of care, missed or delayed diagnosis, a loss of data in the referral process, missed appointments and repeated or unnecessary testing (Cooper *et al*, 2010; Epstein, 1995). Few studies have investigated patient referrals from primary care to mental health services,

communication and liaison from mental health services (Chew-Graham *et al*, 2007) or EDs (Cooper *et al*, 2010) to primary care.

Chew-Graham and colleagues (2007) conducted a qualitative study nested in a randomised control trial and reported how community mental health teams (CMHT) were struggling to deal with referrals from GPs who had variable expertise in managing patients with mental health problems. There was a superficial agreement between the referrers and the people referred on the function of the CMHT but the decision making within the team about referral criteria was inconsistent and did not seem to look at the needs of the referred patient. The referral criteria seemed to concentrate on the needs of the secondary mental health care staff (and the pressure they were under) rather than primary care perspective of the needs of the referred patient.

There are no studies to our knowledge reporting on the communication and liaison between GPs and mental services for patients who have died by suicide or may be at risk of suicide. However, one study assessed the standard of documentation and communication to primary care from secondary care as recommended by the NICE guidelines (NICE, 2004) on the short-term management of people who self-harm (Cooper *et al*, 2008). Data was collected for 93 consecutive episodes of self-harm. Over 60% of episodes were communicated to primary care, 58% of these communications were within 24 hours and most within three days of the self-harm episode. Communication via psychiatric staff was more detailed than ED staff that provided few communications that were of limited content. Communication with the patient's GP was not made in half of those cases seen by a mental health specialist. The findings suggested that Government guidelines were only partially being followed and reliance on communication by ED staff left a substantial proportion of patients discharged from the EDs

with no or minimal communication to primary care. Although this study focussed on patients who have self-harmed the findings may also be applicable to vulnerable patients being managed in primary care who may be at higher risk of suicide.

2.7.4 Section summary

- Studies suggest many people who die by suicide may have a psychiatric disorder but only a minority are referred to specialist services
- Investigating GP decision-making processes following the assessment of patients in primary care is likely to help us understand this paradox
- Literature is sparse on the referral pathways between primary care and mental health services for patients at risk of suicide
- GPs only refer a small minority of patients to specialised mental health services in the year leading up to suicide
- To date no studies have reported on the communication and liaison between GPs and mental services for patients who have died by suicide in primary care

2.8 The challenges GPs face when managing suicidal patients

GPs face challenges when managing patients who may be potentially at risk of suicide particularly as many of the known risk factors for suicide are relatively common amongst the general population and patients in contact with health services. Individually they are not very strong predictors of suicide, even in persons at high risk (O'Connor *et al*, 2013). This combination of factors makes accurately predicting who will die by suicide on the basis of known risk factors very difficult. Nonetheless, suicide prevention is of high national

importance, perhaps increasingly in primary care (DH, 2012), so it is important to know whether primary care-based management is likely to help reduce suicide in the UK by identifying patients in need of treatment and referring them to appropriate care services.

2.8.1 Access to mental health services

There has been comparatively little research investigating which suicide prevention services are available in primary care, or GPs' experiences of accessing and using these services.

While suicide prevention is clearly important within mental health services, it is not exclusively the remit of any one agency (DH, 2012). As such, it is important to have appropriate services within primary care to effectively manage patients with suicidal behaviour and to ensure access to specialist mental health services when required.

GPs are advised to access mental health services for additional support with patients they are unable to manage solely in primary care (NICE, 2004). However, in recent years access to mental health services has varied due to the lack of resources available to primary care for patients with mental health needs and/or substance misuse (Hyde *et al*, 2005). There is good evidence to suggest that initiatives within primary care may contribute to suicide prevention (O'Connor *et al*, 2013; Luoma *et al*, 2002; Power *et al*, 1997; Rodi *et al*, 2010; Matthews *et al*, 1994). However, initiatives that include access to mental health services are a particularly challenging area, with tensions between policy and practice and historical segregation of services.

Currently, GPs act as gatekeepers for patients who need to access specialist health services; however access to mental health services is not always possible (Hamdi *et al*, 2008; Chew-Graham *et al*, 2007; Hyde *et al*, 2005). Hamdi and colleagues (2008) carried out a study

examining all suicide deaths in an area in the UK over a 5-year period and access to mental health services from primary care. They identified 49 individuals who had been referred by GPs but who died before their mental health assessment – 15 (4%) were individuals who had never had contact with mental health services and 34 (25%) who had a history of mental health service contact. The study highlighted barriers GPs faced in successfully referring patients to specialist services prior to suicide (Hamdi *et al*, 2008). Access to mental health care is an important issue for suicide prevention as the impact of this particular barrier may increase risk in vulnerable patients' transition between services. To alleviate the lack of access to mental health services and psychological therapies reported in primary care, Improving Access to Psychological Therapies (IAPT) was introduced within the NHS in 2007 (see section 2.4.2.1).

2.8.2 Non-adherence to treatment

Treatment duration and adherence – particularly intermittent adherence and early discontinuation of pharmacological treatment remain significant issues for GPs (Chen *et al*, 2010; Menchetti *et al*, 2011). Patients who fail to take treatment as prescribed by health professionals are usually referred to as 'non-adherent' or those who have tried and not responded to treatment as 'treatment resistant'. Guidelines for GPs suggested follow-up visits for individuals receiving pharmacological treatment for depression as one mechanism to support patients and improve adherence to treatment (Chen *et al*, 2010). Interventions that increase patient adherence to treatment could help to improve patient health outcomes (NCI 2012; Hawton *et al*, 2005; Goff *et al*, 2010, Novick, 2010; Aldridge, 2011). However, research into suicide and non-adherence has been largely limited to secondary care settings and has in many cases focused on individuals with schizophrenia or bipolar disorder (NCI, 2012; Hawton *et al*, 2005; Goff *et al*, 2010, Novick, 2010; Aldridge, 2011). More information

on treatment adherence and patients' perspectives on side effects of medication and why they discontinue could enhance understanding of the role of health services in improving treatment adherence, particularly for patients displaying risk factors for suicide.

2.8.3 The effect on GPs when patients die by suicide

Although patient suicide is quite uncommon in a GPs career (one in every 3-7years), it is important to place appropriate emphasis on the effects of patient suicide on GPs. Psychiatrists in the UK can look to the British Medical Association, the Royal College of Psychiatrists and the National Counselling service for sick doctors for formal assistance and although GPs can also make use of generic medical support mechanisms the extent to which specific services are available in primary care is unclear and needs exploring.

One study carried out a questionnaire survey in Northern Ireland with 120 GPs to explore the impact of patient suicide on the GP at both a personal and professional level and to find out what levels of support GPs used following patient suicide (Halligan and Corcoran, 2001). Of the GPs, 90 were male and over a third were aged 40-49 years. There was a mix of single-handed (57%) and larger-sized practices (43%) from both urban and rural areas. Eighty-six per cent of the GPs had dealt with a patient suicide over the previous 10 years and on average GPs experience a rate of 3.5 patient suicides over a 10-year period. The mean age of the patients who had died by suicide was 35 years, whilst almost half (49%) were under 30 and male (male: female ratio was 9: 1).

Patient suicide had an impact on the clinical behaviour of the GPs with reports of a subsequent increase in psychiatric referral (54%), more accurate record-keeping (50%), increase in antidepressant prescribing (40%) and increased use of colleague consultation

(36%). At a personal level, 35% of GPs expressed feeling guilty after a patient suicide and almost a quarter (24%) of GPs noted a disruption of their relationship with the victim's family. Some GPs in the study commented on being 'absolutely devastated' and having had their 'sleep pattern affected for up to six months' after patient suicide. Despite this, only a small proportion (20%) sought support, while 62% said that they would use a support system if available (Halligan and Corcoran, 2001). However, these findings must be interpreted cautiously as there are no comparison studies, it was retrospective which may have caused recall bias, referred primarily to a population of rural, single-handed GPs, and the study included predominantly young male suicide cases; therefore its generalisability is somewhat limited.

A more recent study conducted by Kendall and Wiles (2010) in the UK explored the use of critical incident reviews (a quality improvement intervention involving a consulting psychiatrist review of the case) in primary care following patient suicides. Sixteen GPs who had participated in a "critical incident review" were interviewed about the use of this analysis after their patient had died by suicide. The purpose of the reviews was to determine whether useful lessons could be learnt about future clinical practice. GPs identified a tremendous sense of guilt, as well as a fear of being blamed after a patient's suicide and shared a perception of being increasingly expected to prevent events outside of their control. GPs reported a fear of being held accountable for their own decisions when managing patients at risk in primary care (Kendall and Wiles, 2010). Similar findings were reported previously regarding GPs guilt following patient suicides (Halligan and Corcoran, 2001). Studies reporting on the effects of suicides on GPs are sparse and more research is needed.

2.8.4 Section summary

- GPs face challenges when managing patients who may be potentially at risk of suicide
- There may be challenges accessing mental health services when referring patients from primary care
- Individuals, who do not adhere to their treatment regimens, including medication and therapy, may be at greater risk of suicide
- Research is sparse on the formal support systems available to GPs following patient suicides

2.9 Service user needs in primary care prior to suicide

Understanding and helping people who self-harm or engage in suicidal behaviour is an important part of an effective suicide prevention strategy (Kendall *et al*, 2011). Previous research highlights how important person-centred care is in suicide prevention to ensure that individuals can access the appropriate care when they may be vulnerable to suicide (NICE, 2004). Valuable information can be obtained about the way in which services are delivered and made accessible to patients through the accounts of service users experiences (Hunter *et al*, 2012). This knowledge could impact the efforts to improve the quality of healthcare services for patients who may be vulnerable to suicide as the way in which services are accessed, people's problems are assessed, referrals between services are managed, and aftercare arrangements and the process of discharge is completed can all impact on the service user's experience (NICE, 2004; 2009; 2011).

The role of the GP in the prevention of suicidal behaviour and in the aftercare and management of patients who self-harm is important as two-thirds of patients who self-harm and 13% who expressed suicidal thoughts visited their GP within one month of the episode (Houston *et al*, 2003). GPs therefore have an opportunity to intervene through completing an assessment with patients to form an understanding of their individual treatment needs. Studies in primary care have focussed on the effectiveness of aftercare by GPs for patients who self-harm (Houston *et al*, 2003; Bennewith *et al*, 2002) but none have investigated service user experiences in primary care with regards to suicide behaviour. However, it is important to note that service users who were interviewed in EDs following a self-harm incident reported that they would not have thought of contacting their GP for self-harm and ED staff also preferred follow up phone calls to be delivered to patients by mental health staff as they felt that those staff have the relevant skills and provide a safety net for people who fall in the middle of services (Cooper *et al*, 2013).

There is a lack of suicide research with ‘at risk’ vulnerable individuals due to the concern that suicidal feelings or behaviours may be increased by research participation (Lakeman and Fitzgerald, 2009). It has been argued that ethics committees can be paternalistic, ‘overprotective’, or generally resistant to suicide research (Lakeman and Fitzgerald, 2009) and that a tendency to overstate risks has hampered research (Cukrowicz *et al*, 2010; Jorm *et al*, 2007), especially qualitative research seeking to explore the suicidal experience (Lakeman and Fitzgerald, 2009). However, previous studies utilising an in-depth qualitative approach have investigated service user experiences of assessment and follow-up suggest that psychosocial assessment was an opportunity to engage service users in order to maintain benefits established during the hospital experience (Hunter *et al*, 2012) and that individuals were more likely to derive benefit from participation than experience harm (Biddle *et al*,

2013). Another study that focused specifically on suicide research supported these findings (Cukrowicz *et al*, 2010) and did not report an increase in suicidal thoughts or behaviour following the administration of survey questions including suicide-related content.

Although we found no studies exploring service users' views of interventions in primary care after suicidal behaviour, the few studies that have been completed in a secondary setting (Biddle *et al*, 2013; Cooper *et al*, 2013; Hunter *et al*, 2012; Cukrowicz *et al*, 2010; Hume and Platt, 2007) have highlighted that personal circumstances and life history were major influences on the choice of interventions for self-harm and that patients preferred immediate aftercare based in community settings. They also highlighted that interventions should acknowledge diverse populations and diverse service user needs (Hume and Platt, 2007); thus patient centred care was preferred over a 'one size fits all' system (Cooper *et al*, 2013). Additionally, service user experiences speak of the fact that not all patients self-harm with suicidal intent and for some it was a *silent scream* and that they "need to self-harm in order to keep alive" (Pembroke, 1994 p. 37). Cresswell (2005) reports that some patients avoided medical contacts as they did not want to get caught up with a medical psychiatric label that pronounced them unwell and rather wanted to be seen as *survivors* of life circumstances that had led to the self-harm incidents which were forms of release rather than an intention to die by suicide (Cresswell, 2005).

Future studies investigating service user experiences should include a heterogeneous sample of service users being managed in primary care. The varied perspectives and views of general population service users as well people who have previously self-harmed or displayed suicidal behaviour are likely to be helpful. This is important as many individuals who die by suicide have no plans, no previous suicide attempts and no history of self-harm and may

consult in primary care prior to death. Improving the quality of service user experience could be valuable for suicidal patients who have different levels of contact with primary care and mental health services over long or short periods of time (Hunter *et al*, 2012).

2.9.1 Section summary

- Valuable information can be obtained from patients about the way in which services are delivered and made accessible to patients who may be vulnerable to suicide
- Improving the quality of service user experience could be valuable for suicidal patients
- The importance of patient-centred care has been explicitly promoted in the NICE guidelines with regards to suicide prevention
- To date, no studies have investigated service user experiences in primary care following a patient's suicide attempt or self-harm behaviour
- Service users and A&E staff both highlight that they might not see GPs as the relevantly trained staff to deal with self-harm assessments and follow-ups

2.10 Summary

2.10.1 Main findings of studies to date

Both large-scale epidemiological and psychological autopsy studies have considered the consultation rates and characteristics of patients who visit GPs prior to suicide and have raised awareness of clinical, age and gender-specific risk factors and other life events

influencing the patient's suicidal ideation or behaviour. Females and elderly patients are most likely to consult in primary care prior to suicide. Ethnicity data for consultation rates were limited. Individuals have high rates of contact with primary care prior to suicide but patients with a history of contact with mental health services have been shown to consult with their GP closer to the time of suicide compared with those without such contact. Those who die by suicide are significantly more likely to have received a mental health diagnosis (of depression, anxiety, and alcoholism in particular) and to consult with their GP more frequently than age- and gender-matched living controls. Although consultation in primary care is high prior to suicide, 29% to 50% of patients had not consulted in primary care in the months leading up to their death. Non-attendance was associated with being male, young and lower rates of psychiatric diagnosis. Societal factors, such as cultural norms, attitudes, health, education, alcoholism, social isolation and socioeconomic status may influence attendance rates and lower rates of psychiatric diagnosis.

Depression is the most common psychiatric disorder with which patients present to their GPs prior to suicide and is a robust risk factor for suicide. Primary care should be particularly attentive to suicidal ideation in depressed patients and older patients given the high rate of consultation and completed suicide in these groups. There is an association between elevated suicide risk, chronic physical illness and depression. Substance misuse is another common diagnosis for individuals who have died by suicide and is usually present alongside a psychiatric diagnosis.

Despite the emphasis placed on primary care in suicide-prevention strategies, studies have found low levels of assessment of suicide risk among patients treated in primary care. GPs are rarely alerted to a patient's thoughts of ending his/her life by pre-suicidal visiting patterns

alone and suicide-related discussions in primary care appear to be rare. GPs may not be recognising patients risk in primary care consultations or patients presenting in primary care may have similar risk factors to patients who do not go on to die by suicide. Risk assessment tools are used to assess for suicide risk in primary care but there is limited evidence to suggest that these screening instruments may be able to identify adults at increased risk of suicide. Evidence also suggests that different professional groups vary in their risk assessments.

Those GPs who have been trained have been found to elicit relevant information more frequently than colleagues who have not undertaken such training. However, the effectiveness of GP training-specifically on suicide rates has been equivocal but importantly no studies have reported negative effects on patients following suicide prevention training for health professionals. Educational programmes may need to be gender-specific as previous programmes may have shown more impact on female, but not male suicides. Regular training at timely intervals is required for GPs as the rates of suicide may increase again once training ceases. Combining educational programmes with better access to depression treatment may have a greater impact on reducing suicide mortality compared with use of educational programmes alone. Community-based action programmes have shown significant reductions of suicidal behaviour and have been implemented as part of the European Alliance Against Depression across 15 European countries.

Mental illness (particularly depression) is a major risk factor for suicide. Most psychiatric disorders are managed in primary care or alongside mental health services. Psychotropic medications are widely used to treat psychiatric disorders, mostly antidepressants in primary care. Critics of psychotropic medications have drawn attention to the harms caused by them

and there are concerns over the reliance on medication and lack of alternative therapies. There are a variety of psychological ‘talking therapies’ which can be used alongside, or as alternatives to, psychotropic medication in order to treat psychiatric disorders. Psychotherapies have been found to be effective in the treatment of suicidal patients, however, the literature also suggest that debriefing is not always helpful for some patients immediately after the incident.

Many people who die by suicide have been diagnosed with a psychiatric disorder but only a minority are referred to specialist services. Literature is sparse on the referral pathways between primary care and mental health services for patients at risk of suicide. GPs only refer a small minority of patients to specialised mental health services in the year leading up to suicide. To date no studies have reported on the communication and liaison between GPs and mental services for patients who have died by suicide in primary care. One study has reported on the lack of communication with primary care following a patient’s presentation in EDs for self-harm. Better communication between services may aid GPs in monitoring patients who consult in primary care following displays of suicidal behaviour.

GPs face challenges when managing patients who may be potentially at risk of suicide. These include: lack of recognition of patients who may be at risk of suicide; lack of access to mental health services for patients being referred from primary care; managing patients who do not adhere to their treatment regimens; and, the effect of patient suicides on a GP. The known risk factors associated with suicide are relatively common amongst the general population and patients in contact with health services and therefore may not be very strong predictors of suicide, even in persons at high risk. Thus accurately predicting who will die by suicide on the basis of known risk factors is very difficult for GPs. GPs face barriers when referring

patients to specialist services prior to suicide thus increasing risk in vulnerable patients' transition between services. Individuals, who do not adhere to their treatment regimens, including medication and therapy, were at greater risk of suicide. Some interventions increase patient adherence to treatment and thus improve patient health outcomes. Research is sparse on the formal support systems available to GPs following patient suicides. GPs expressed feeling guilty after a patient suicide and that they would access support systems if they were available to them.

The importance of patient-centred care has been explicitly promoted in the NICE guidelines with regards to suicide prevention. Improving the quality of service user experience could be valuable for suicidal patients as it would provide their perspectives about the way in which services are delivered and made accessible to them. Studies in primary care have focussed on the effectiveness of aftercare delivered by GPs for patients who self-harm but none have investigated service user experiences in primary care with regards to the management of suicidal patients. Service users and staff interviewed in EDs both reported that they did not see GPs as the relevantly trained professional to deal with self-harm assessments and follow-ups.

2.10.2 Methodological limitations of studies to date

The approach used in this literature review provides the best synthesis of the evidence that is available from currently published information. However, generalisation of the results from this review is difficult because of the various factors that can influence the effectiveness of suicide prevention strategies, such as demographic variables (e.g. age, gender and ethnic origin), the cultural and socioeconomic context and the extant health and social systems. Poor descriptions of some interventions made it difficult to identify similarities and differences

among the studies. As suicide is a relatively rare event, large sample sizes are necessary to measure differences between studies. However, many of the studies included in this literature review used small sample sizes, which made it difficult to detect such differences. This was further exacerbated by the difficulty of separating the effects of primary care based strategies from general population trends in suicide rates over time.

2.10.2.1 Retrospective case note studies

The methodological limitations of retrospective case note studies apply to this literature. Recall bias was unavoidable in the data collected for the studies because of the time it takes (sometimes more than one year) for a coroner to reach a verdict in cases where an inquest was held and where information was retrieved from mental health questionnaires (Hamdi *et al*, 2008; Stanistreet *et al*, 2004; Appleby *et al*, 1996; Matthews *et al*, 1994). There are limitations of studies using primary care case notes alone as they are not always accurate and rely on personal bias of retrospective interpretation alone. All the data from primary care medical records could not be retrieved regarding psychiatric ill-health as this was not always available in the case notes and therefore this may have resulted in an underestimate of psychiatric diagnosis (Hamdi *et al*, 2008; Appleby *et al*, 1996).

Another important limitation is missing data for people who had died by suicide, people for whom data was not available from the retrospective case notes. These records, understandably, would not have focussed specifically on suicide risk related factors and were therefore limited by the availability of information on the deceased person. In some cases, where patients had no contact with health services prior to suicide, the information will have been very limited and will have included even more missing data (Hamdi *et al*, 2008). Some

studies may have excluded suicides with a large number of missing information and therefore may not have highlighted the scarcity of information available on a significant group of suicides, for example the unavailability of ethnicity data.

Previous empirical studies have focused on one specific paradigm which has not provided data on the reasoning for consultation or non-consultation in primary care. There have been psychological autopsy studies or qualitative studies which provide some further insight into the data but many critics are reluctant to accept the trustworthiness and rigour of qualitative research. These studies which have used additional information from key informants that provide more insight are with health professionals and lay persons and are retrospective and therefore may include some recall bias (Draper *et al*, 2008; Isometsa *et al*, 1995). Health professionals may also be reluctant to provide information if they felt it would incriminate them in some way and therefore the data relies on what the person chooses to disclose in the interviews. The findings are therefore difficult to interpret when focussing on suicide prevention in primary care.

One psychological autopsy study conducted with health professionals (GPs, psychiatrists or nurses) showed no distinction between each person's responses on the specific key themes (Draper *et al*, 2008). Additionally, all of the literature with regards to suicide and primary care has relied on retrieving information from medical case notes or coroner files or interview data with either a health professional or lay person (Owens *et al*, 2005). These studies have been reliant on the perception and interpretation of others as to why a patient may or may not have consulted in primary care prior to suicide. Non response from participants who were approached to be interviewed may also be a potential source of bias.

2.10.2.2 Case-control studies

To date, case-control studies looking at primary care consultation prior to patient suicides have compared different groups of individuals (NCISH 2014; Rodi *et al*, 2010; Haste *et al*, 1998; Power *et al*, 1997). For example some report on gender differences and others on psychiatric diagnosis. There is limited data on racial or ethnic minority suicide cases or adolescent and younger groups. Previous studies have also used different methods and compared different time frames of contacts with primary care prior to suicide thus limiting the comparability of the studies. Studies have been essentially cross sectional in design, have tended to focus on ‘frequent attenders,’ have used a limited number of measures in a small number of subjects, and in many cases are now two decades old.

2.10.2.3 Cohort studies

Cohort studies are likely to yield the most robust findings but cohort studies are not as common in suicide research as study power is limited even when large samples are used because suicide is a rare event. The relatively low number of suicides affected the power of the studies, particularly within the subgroups that are studied and these therefore lack adequate power to detect a significant risk. This limitation is typical of many cohort studies (Cooper *et al*, 2005). Even though suicide was more common in these cohort studies than in the general population, a very large sample size was still required to study such a rare outcome. However, previous studies have shown a number of variables to still be significant, highlighting the importance of factors such as gender and alcohol misuse.

2.10.2.4 Systematic reviews

As with all systematic reviews based on published studies, the findings of this literature review are subject to publication bias (O'Connor *et al*, 2013; Schulberg *et al*, 2004; Luoma *et al*, 2002). This bias is increased by the tendency among authors to provide little or no data when investigation of potential risk factors produces non-significant associations, since this results in their exclusion from the meta-analysis. Reviews of this type are also subject to potential bias resulting from the fact that some investigations - especially cohort studies - examine relatively few potential risk factors, whereas others - notably case-control studies - include more. Also, some potential risk factors have been examined in a fairly large number of studies, whereas others have received less attention. One of the main drawbacks of a meta-analytical study is that there is considerable variation between investigators in the definition of individual risk factors. This variability necessitates compromise on the specificity of definitions in order to allow inclusion of the largest possible number of studies. The degree of heterogeneity in the analyses of some factors is testimony to how much findings can vary between studies and how misleading single studies can be, especially when based on small numbers of participants and/or weaker research designs. A disadvantage of this approach is that it is not possible to adjust estimates of risk factors for effects of confounding factors, since this would require access to individual patient data.

2.10.3 Gaps in the literature to date

Suicide research in England has been limited to secondary care services and the research in primary care has been largely descriptive. Qualitative methodology has been used in studies exploring and promoting a greater depth of understanding of the topic than might be achieved in quantitative research but studies are limited for primary care and suicide. Qualitative findings can provide a different but insightful perspective from GPs compared to quantitative

data alone, as they can capture different perspectives of the phenomenon and capture nuances to inform health policy.

Low assessment rates in primary care have been evident in previous quantitative studies. Recent attempts at developing meaningful measures for assessing education interventions in primary care have suggested that differential levels of assessment might be linked to contextual factors such as GP or patient characteristics, individual personal circumstances and /or the recognition of depression. Identifying low and high assessment rates is an important research goal but to be useful in providing advice on GP improvement, context-specific qualitative data on the nature of the challenge of managing patients in primary care is also needed.

Collecting information on the contextual data on the treatment and management of patients in primary care who are in contact with mental health services is essential to determine the management of patients in primary care prior to suicide. To date, no mixed methods studies have investigated the role that primary care services might play in efforts to reduce the incidence of suicide. Additionally, the recognition of suicidal ideation by GPs is important in the management of patients in primary care. The interactions and management of patients with suicidal ideation in primary care are relatively unexplored. Very few studies have conducted in-depth analysis of the ways in which individuals communicate suicidal ideation, or how these communications are interpreted by GPs.

There is a significant knowledge gap in mixed methods suicide research in primary care. No studies have explored GPs' perception of the communication and liaison between primary care and mental health services for patients who may be at risk of suicide. Mixed methods

research will provide descriptive data on this research area and explanations about the decision-making processes. A mixed methods approach offers an opportunity for generating new ways of understanding the complexities and contexts of social experience, and for enhancing our capacities for social explanation and generalisation. Such an approach can draw on and extend some of the best principles of qualitative enquiry and quantitative data collection. Additionally, it can benefit from ways in which qualitative research have sought to engage with methodological issues especially around questions of interpretation and explanation.

2.10.4 Conclusion

Suicide prevention in primary care is clearly not an easy task, but GPs may have an important role in suicide prevention. Little is known about the contextual information for patients' primary care consultations prior to suicide, the specific interactions GPs have with patients who go on to take their own lives, GPs assessment and management methods of those patients and about GP liaison with mental health services prior to a patient's suicide. Primary care is usually involved at the first stage in identifying health needs and in determining the care that a patient will subsequently receive. Thus, it seemed logical to begin by focusing on this phase of the care pathway, particularly as previous research in this area is sparse. However, some patients may not have been seen in primary care in the first stage of the identification of their mental health needs as they may have been referred by the crisis teams in emergency departments after an initial risk assessment. Nevertheless, primary care is likely to have been involved in the subsequent and ongoing care of these patients and the consultation data will be informative of the communication between primary care and mental health services use following these contacts.

The topic of the study emerged naturally as a line of inquiry from studies included in the literature review. The mixed methods approach will allow us to look closely at these issues in order to understand how best to equip GPs in recognising and responding to suicide risk in patients who have contact with mental health services in the year prior to death and the management of patients in primary care. It will provide a firm foundation on which to base interventions to raise and promote an approach specific for primary care to aid suicide prevention.

2.11 Research questions

- What is the consultation behaviour and what are the characteristics of patients who visit primary care prior to suicide?
- How do GPs assess and manage suicidal risk in patients who consult in primary care?
- How do GPs manage non-adherence to treatment or medication for patients who die by suicide prior to their deaths?
- What services are available to GPs in primary care for patients who may be at risk of suicide?
- What are GPs' perspectives and views on managing suicidal patients in primary care?

2.12 Study aims and objectives

The main aims of this thesis are to investigate a sample of primary care consultation records for patients who have had contact with mental health services in the year prior to death and to explore GPs views and perceptions on the management of patients prior to suicide in primary care. The specific objectives for the thesis are:

- 1) To examine patterns of attendance and the characteristics of patients' consultation behaviour in primary care, particularly in the 12 months prior to suicide;
- 2) To examine the risk assessment and management of a sample of mental health patients in primary and secondary care who died by suicide;
- 3) To examine patient contact, engagement and management in primary and secondary care for patients rated as non-adherent to medication or treatment by primary and secondary care;
- 4) To investigate the services available in primary care for the management of suicidal patients and examine GPs views on these services;
- 5) To generate rich and detailed descriptions from interviews to explore GP views and perceptions on the management and treatment of suicidal patients prior to their death.

Chapter 3: Methodology

In chapter three I justify the conceptual framework and methodological approaches used in this thesis. I will briefly discuss the debate on the divergent views on how to generate knowledge and will provide justification for the methodological positions taken throughout this work. Having considered epistemological issues, I will then describe the approaches and procedures used to collect and analyse data and provide an overview of the research work that underpins this thesis. Further detail of methods used is included in the individual papers. The limitation of the research designs used will also be considered later in the individual papers and discussion sections of the thesis.

3.1 Research paradigms

Research can be approached from a number of perspectives or paradigms. A paradigm has been defined as an “entire constellation of beliefs, values, techniques, and so on, shared by the members of a given community” (Kuhn, 1962 p.162). Paradigms cannot be proven or disproven (Guba & Lincoln, 1989). Nonetheless, they carry implications for how research is carried out and how knowledge is accumulated. There are a number of theoretical paradigms but the two key epistemological positions are positivism and interpretivism. Epistemology looks at what counts as knowledge, how this knowledge is generated, what validity the researcher’s knowledge claims have and what the relationship is between the researcher and the researched. This is important because it encourages researchers to think about the underlying assumptions of their own research and helps to make the study more transparent and robust.

Historically, the paradigm known as positivism has dominated scientific research. Positivism assumes an ontological position known as realism: the view that there is one single, external reality that exists independently of human consciousness (Crotty, 1998). Epistemologically, the investigator and investigated are independent entities. Therefore, the investigator is required to study a phenomenon without influencing it or being influenced by it; “inquiry takes place as through a one way mirror” (Guba and Lincoln, 1994, pg110). In contrast, the paradigm based on interpretivism argues that the subject matter of the social world is different from the natural world giving a different starting point (Burr, 2003). This proposes that as individuals engage with the world and others, they develop varied and subjective meanings of their experiences. From this perspective, there are multiple constructions of the world or ‘realities’ with no single, objective reality (Mays & Pope, 1995a).

Ontology refers to the nature of reality and positivism and interpretivism have different conceptualisations of reality. Realism is associated with positivism and relativism with interpretivism.

These two ontological positions of realism and relativism have very different implications for epistemology (the way in which knowledge is derived). From the perspective of positivism, knowledge is derived from scientific method; here there is an emphasis on hypothesis testing and concepts such as rigour, reliability, validity, and objectivity (Guba & Lincoln, 1989). Positivist research is often, but not exclusively quantitative. Methods frequently involve measurements, questionnaires, observations and tests as they provide the fundamental connection between empirical observation and mathematical expression of quantitative relationships. In contrast, research from the interpretivist paradigm is often, but not exclusively, qualitative.

Qualitative researchers conduct research to understand participants' experiences, views and perspectives, often in their natural environments (Bryman, 2004). Qualitative research is the examination, analysis and interpretation of observations for the purpose of discovering underlying meanings and patterns of relationships, including classifications of types of phenomena and entities, in a manner that does not involve mathematical models. The methods used vary, but can include interviews, observations, case studies and documentary analyses. This research asks broad questions and collects word data, pictures, photos, video diaries, and so on from participants. The researcher looks for themes and describes the information in themes and patterns exclusive to that set of participants. This approach recognises that researchers themselves are not free from bias and seeks to acknowledge, and

even value, their input (Bryman, 2004; Silverman, 2005). It also recognises the importance of minority views and ensures that these too are included in the analysis.

3.1.1 Paradigm wars

Since the 1980s conceptual disagreements have been called “paradigm wars”. There have been at least three paradigm wars: the post positivist war against positivism (1970-1990); the wars between competing post positivist, constructivist, and critical theory paradigms (1990-2005); and the current war between evidence-based methodologists and the mixed methods, interpretive, and critical theory schools (2005 to present) (Tashakkori & Teddlie, 2003). Each war has turned on a questioning of paradigmatic assumptions and has reconfigured the relationship between paradigm, methodology epistemology, and ethics.

Lincoln and Guba (1985) believe that quantitative and qualitative research are incompatible with each other whilst Patton (1990) thinks that a well versed researcher should be able to combine both of the research methods within one study. Some researchers argue about the philosophical nature of these paradigms, particularly in relation to the nature of reality. However, others overlook these complications as it is argued that different epistemologies allow us to understand different aspects of the world. Both key paradigms have totally different assumptions of the nature of reality and they use different processes, procedures and instruments to collect data. The debate between the paradigms centres on incompatibility in relation to ontology (the nature of reality). A more pragmatist approach as advocated by Howe (1992) argues that researchers should forge ahead with using methods that are most appropriate to answer the research question. However, this fails to acknowledge that the research question itself can also be influenced by the researcher’s ontological position. The prevalent attitude in mixed-methods research suggests that only pragmatists, or those not

wedded to either paradigm, would attempt to combine research methods across paradigms. However, this does not address the issue of differing ontological assumptions of the two paradigms and this remains a problem for mixed methods approaches.

Closely tied to the arguments for integrating qualitative and quantitative approaches are the reasons given for legitimately combining them. Two main reasons have been highlighted in the literature. The first is to achieve cross-validation or triangulation – combining two or more theories or sources of data to study the same phenomenon in order to gain a more complete understanding of it (Denzin, 1970). The second is to achieve complementary results by using the strengths of one method to enhance the limitations of the other (Morgan, 1998). The former position maintains that research methods are interdependent; the latter, that they are independent. Although these two reasons are often used interchangeably in the literature, it is important to make a distinction between them. Quantitative methods may pin things down that in reality are much more complex; qualitative methods may help to explore such complexities.

In social science, the use of one or other type of paradigm has become a matter of controversy and even ideology. Advocates of quantitative methods argue that only by using such methods can social sciences become truly scientific; advocates of qualitative methods have argued that quantitative methods tend to obscure the reality of the social phenomena under study because they underestimate or neglect the non-measurable factors, which may be the most important. Researchers who adopt a pragmatic stance argue that paradigm differences are independent of, and hence can be used in conjunction with, one another in the service of addressing a question (Johnson & Onwuegbuzie, 2004; Morgan, 2007).

The paradigm wars have largely subsided (Bryman, 2006). Whilst the principles of positivism were viewed as ‘gold standard’, it is now generally accepted that both paradigms have their uses under different circumstances. Silverman has suggested that the qualitative/quantitative debate is a perhaps a false dichotomy, with questionable purpose as viewing such dichotomies or polarities in social science is highly dangerous (Silverman, 2005 p.8). Silverman (2005) argues that they are informative devices for students to obtain a first grip on a difficult field and at worst they are excuses for not thinking or learning from one another. However, some authors have raised concerns that mixed methods designs leave qualitative methods in the position of being secondary to quantitative methods (Denzin, 2010; Giddings, 2006; Yin, 2006). Thus, this removes the importance of the data gained from the qualitative research. This may be due to high impact journals and funding bodies preferring quantitative methods in papers and study proposals. One reason that has been highlighted for the preference of quantitative research is the cost implications of qualitative research. Additionally, the funder’s decision may be affected by the lack of education and training in mixed methods research (O’Cathain *et al*, 2009).

3.1.2 Mixed methods for suicide research

Pragmatist researchers use both quantitative and qualitative methods because they argue that this provides the best understanding of the problem. The goal of mixed methods research is not to replace either of these approaches but rather to draw from the strengths and minimise the weaknesses of both in single research studies and across studies. Research in suicidology has been largely quantitative. While demographic, psychological, and psychiatric variables continue to be studied, subjectivity is typically not the focus of research. For suicide research, mixed methods will be able to integrate objective and subjective accounts for the questions that remain unanswered and better serve the knowledge gaps in this area. Mixed methods

research in suicide is comparatively rare (De Leo, 2002), and there has been a recent call to add qualitative research to this area (Lakeman and Fitzgerald, 2008).

Mixed methods may represent a real opportunity to move the field forward, both theoretically and methodologically. Suicide will always be an elusive outcome to measure; however, quantitative and qualitative inquiry in conjunction with each other could be used to deepen our understanding of suicide prevention (Kral *et al*, 2011). Exploratory studies using qualitative methods can be carried out to develop more meaningful outcomes. Each type of method focuses on a different object of study: the particular or the universal, and first-person or objective points of view. These methods in combination may expand the understanding of the role of primary care in suicide prevention as the two methods may provide more meaningful information on the phenomena of interest, and can potentially tell us more than one method alone.

Following these debates, this thesis is informed by a pragmatic approach, flexible enough to accommodate whatever methods were necessary to answer the research questions. The qualitative component of the study is presented within an interpretivist epistemology.

Following the quantitative aspect of the study where descriptive data were collected from psychiatric reports and primary care medical records, interpretivism seemed most appropriate for the qualitative element of the study. The notion that the meanings attached to primary care 'consultation data' were not fixed and could change, held an appealing logic that could potentially explain how consultation data could be viewed differently by different people when treating different patients. Using this approach had the advantage that it would allow me to comment on the range of meanings ascribed to consultation data from GPs perspectives without necessarily commenting on which should be regarded as the 'truth'. This was

preferable to accepting a positivist outlook alone; where there would be more pressure to identify the ‘correct’ view about consultations, which corresponded with an ‘objective’ reality. Increasingly, the particular role played by primary care for patients who consulted with GPs prior to suicide; especially those who were in contact with mental health services in the year leading up to suicide became of interest to the study.

3.1.3 Rationale for a mixed methods approach

This study adopts a mixed methods approach as I felt that this offered the greatest potential for establishing knowledge about which I could be reasonably confident, and to provide findings that were relevant to primary care policy makers and practitioners. The most appropriate method or a combination of methods was chosen on the basis of which approach was likely to answer the research question most effectively and efficiently. The overall aim of this study was to begin to determine the possible role of primary care in suicide prevention. I arrived at this aim because I wanted to determine the context (qualitative), as well as the scale (quantitative), of the consultation data for patients who presented in primary care prior to suicide.

Previous studies suggest the benefits for using mixed methods in research suicide prevention. One study concluded that researchers are required to “think big,” calling for major investments, multidisciplinary teams, and integrated approaches (De Leo, 2002). Mixed methods research is well suited for complex issues that call for comprehensive investigation and has grown out of the need for pragmatism. For the pragmatist, practical demands will lead to the best solution for a problem. For example, true experiments will never be available to understand the cultural and social determinants for preventing suicide; however, a mixed methods approach allows for a more holistic and robust methodology. Adopting a mixed

methods approach, grounded in pragmatism, allows the examination of the issues from multiple angles and development of a ‘rich’ analysis of the problems that would not have been available had qualitative or quantitative approaches been used exclusively. Thus, the research work was designed to respond to the research questions defined at the end of Chapter 2 and summarised here:

- What is the consultation behaviour and characteristics of patients who visit primary care prior to suicide?
- How do GPs assess and manage suicidal risk in patients who consult in primary care?
- How do GPs manage non-adherence to treatment or medication for patients who die by suicide?
- What services are available to GPs in primary care for patients who may be at risk of suicide?
- What are GPs’ perspectives and views on managing suicidal patients in primary care?

Further details of the methods used in the individual papers are given in the in the next chapter. In this chapter I will discuss general methodological approaches.

3.2 Sample and Setting

The total sample for this study included 336 individuals who had died by suicide between 1st January 2003 and 30th June 2007 (cases retrieved from the Inquiry case series). The overall sample comprised an original data set of 286 individuals that was used for the first two papers in this thesis. The sample was then supplemented with additional data for another 50 individuals (primarily for a qualitative study) as the initial phase of data collection raised new areas for discussion with GPs. The full dataset for 336 individuals was used for two further papers and the final paper used only the additional sample of 50 individuals who had died by suicide, which yielded 39 interviews with GPs.

The following inclusion criteria were used for participants:

- a) Patients who had died of suicide had contact with mental health services in the year prior to suicide;
- b) Patients who were residing in the North-West of England at the time of their death.

We chose those who had died by suicide after contact with mental health services rather than a general population sample as we were keen to explore the liaison between primary and secondary care services. The geographical restriction was imposed for practical considerations (for example, this made it easier to access to coroners' files or primary care information).

Secondary care data, data from coroners' files, and primary care data were collected through proformas or questionnaires (see Appendices A, B, F-H). We also aimed to interview the GP for each deceased patient. My relatively wide inclusion criteria enabled me to include a range of GPs of different ages, gender, years in practice and from both rural and urban

practices. I invited GPs of these patients who had died by suicide to participate in the study. Participants were selected, not because they were judged to be representative in some way, but because they had experiences or knowledge relevant to the treatment and management of suicidal patients in primary care (as their patient from our sample had died by suicide). Potential GP participants were approached initially by the lead researcher (PS) to discuss their participation in the study by being sent letters of invitation (Appendix C), accompanied by a participant information sheet which detailed the intended purpose and content of interviews and what participation would involve and confidentiality arrangements (Appendix D). Involvement in the study included a researcher having access to the deceased patient's medical records prior to the interview with the GP.

Interviews were then arranged with all those who consented to participate in the study. Reasons for non-participation of GPs in interviews (where medical records were available) were: perceived lack of time; GP had retired or left the practice, no other GP knew the patient; or the GP had died. In these cases, medical records were received at Primary Care Trusts or GP practices. In some cases practice managers completed the service availability questionnaire.

This study was carried out in the National Health Service (NHS). Most of the English population are registered with a GP. Specialist mental health services (generally referred to as 'mental health trusts') provide care to those seeking treatment. Primary care and specialist treatment, like other services provided by the NHS, is free at the point of use.

3.2.1 Sample Size Calculations

Sample size calculations may be carried out in the planning stages of a study. These statistical calculations are necessary to estimate the number of cases needed to meet the required level of precision for prevalence estimates or to estimate the number of cases needed to power any planned statistical analyses, for example a comparison of proportions between two groups.

In prevalence studies, confidence intervals are often used. These give an indication of the range in which the 'true' value is likely to lie, for example the 95% confidence interval (CI) (Field, 2013). The CI contains the parameter values that, when tested, should not be rejected with the same sample. CIs in prevalence studies depend on three components: sample size, prevalence and population size. Generally speaking, the smaller the sample size the wider the CI and the larger the sample size the smaller the CI. Whilst underpowered statistical analyses are susceptible to Type 2 error (failure to reject the null hypothesis when the alternative hypothesis is true), oversized studies should also be avoided as these may waste time and resources, and could potentially be unethical if too many participants are subjected to the exposure or research activity (Rothman and Greenland, 2008). Hence, when designing a study there needs to be a balance between statistical needs and practicality.

My study was initially conceptualised as a descriptive hypothesis generating study and a power calculation was not carried out to check sample size. Instead, for the initial sample we decided we would investigate all cases of suicide within 12 months of contact with mental health services in the North West over a two year period – this yielded 286 cases. The initial studies raised potentially new areas for discussion with GPs (e.g. the liaison between primary and secondary care for mental health patients) and so we took a pragmatic decision to recruit an additional 50 cases, giving a total potential sample size of 336 cases.

There is some heated statistical debate about the appropriateness of post-analysis sample-size/power calculations (Hoenig and Heisey, 2001), but for illustrative purposes we felt it was worthwhile to briefly discuss the level of precision that such a sample size would afford.

Assuming a sample size of 300 cases, the 95% CI around a characteristic with a prevalence of 20% would be 16% to 25%, for a characteristic with a prevalence of 50% the 95% CI would be 44% to 56%, and for a characteristic with a prevalence of 70% the 95% CI would be 65% to 75%. If the sample size was smaller, for example $n=100$, the corresponding 95% CI around the proportions would be: 20% (13 to 29%); 50% (40 to 60%); 70% (60 to 79%). Hence a sample size of 300 provides a higher level of precision.

3.3 Design of the study

| Method | Data collection |
|--------------|--|
| Quantitative | <ul style="list-style-type: none">• Questionnaires completed by mental health services• Coroner files• Primary care written and electronic medical records |
| Qualitative | <ul style="list-style-type: none">• Semi-structured interviews with GPs |

3.3.1 Quantitative methods

In this study, the quantitative methods included retrospective case note examination of:

- 1) Questionnaires completed by mental health services (see Appendix A)
- 2) Coroner files (see Appendix B)
- 3) Primary care written and electronic medical records (see Appendix F)

3.3.1.1 Questionnaires completed by mental health services

Mental health service data were collected through the Inquiry into Suicide and Homicide, a well-established national clinical study. The National Confidential Inquiry (NCI) is a UK-wide case-series of all suicides by people in contact with mental health services in the 12 months prior to death. Established at the University of Manchester (UK) in 1996, the Inquiry dataset is unique because of the comprehensive UK-wide data collection systems of suicides in a clinical population, which have now been in place for nearly two decades. There were three stages to data collection. Firstly, information on all suicides was collected from the ONS. The ONS is the government department responsible for collecting and publishing official statistics about society and the economy in the UK. Data from ONS were used to

detect trends in mortality. The Inquiry received notification from ONS of all people who died by suicide or who received an open verdict at the coroner's inquest in England and Wales. Open verdicts were included unless it was clear that suicide was not considered at inquest, for example where a medical cause of death could not be found but it was not self-inflicted. Therefore, cases with a verdict of suicide with ICD-10 Codes X60-X84 and Y87.0, and open verdicts with ICD-10 codes Y10-Y34, excluding Y33.9 (verdict pending) and Y87.2 (sequelae of events of undetermined intent), were included in the current study. Secondly, details on each case were submitted to mental health services in each individual's district of residence and adjacent districts, to identify those with a history of mental health service contact within 12 months of suicide (NCI cases). Thirdly, information on Inquiry cases was obtained from clinical teams (Appendix A). Therefore, the Inquiry only collected information from secondary mental health teams. The ascertainment procedures were robust and the response rates of clinicians (i.e. the proportion who return the Inquiry questionnaire) high (over 95%), which reflected the long-standing relationship with mental health professionals nationally. The findings of the Inquiry have impacted on clinical practice and policy in the UK by providing definitive figures on suicide among mental health patients, which were quoted by government departments, the voluntary sector, and academics (NCI, 2006; 2008; 2010; 2012; 2013; 2014).

The questionnaire data was retrieved for the total sample of 336 individuals that had died by suicide.

3.3.1.2 Coroner files

In England and Wales the role of a coroner is to determine the circumstances and medical reason associated with unnatural deaths and the duties include: conducting forensic

investigations; conducting medical investigations; family liaison; statement taking and evidence gathering; public relations. An inquest is required to establish the facts before a death can be officially registered. This is a public hearing held in an open court. The coroner is empowered to call witnesses and solicit documents, which may have provided evidence to the court. In addition to the coroner's own investigation, the police files are also submitted as evidence.

In this study, coroners who agreed to participate were asked to provide coroner files for the research team to examine and the researchers completed a proforma (Appendix B) detailing relevant information leading up to the person's death. All of the data collection took place in the Coroners' premises and took approximately one hour per file. The data of primary interest for the study was the significant events leading up to the death, the information from the police, medical and witness statements and the patient's GP details (where this was not available from NHS Trusts).

The coroner files were reviewed for 272 (95%) of the 286 individuals that had died by suicide and were included in the sample. Files could not be retrieved for 14 (5%) individuals included in the sample as one coroner refused to participate in the study. Coroner information was not retrieved for the additional 50 cases as we managed to retrieve GP details from the Trusts for all of the cases. Additionally, the main focus of the additional interviews was to explore new areas for discussion with GPs (e.g. the liaison between primary and secondary care for mental health patients) following the emerging information from the initial interviews.

3.3.1.3 Primary care written and electronic medical records

A retrospective review of primary care medical records (both written and/or electronic) was conducted with consenting general practices. Most case record reviews took place in the GPs' practice, but some records were viewed at Primary Care Trust (PCT) premises. Case reviews using a medical records' proforma (Appendix F) took approximately one hour. GPs were asked for information on the patients who had died by suicide – these included details of physical and mental health problems reported in all consultations and treatment offered in the year before death, specifically the final consultation.

Medical records were reviewed for 291 (86%) of the 336 individuals that were included in the overall sample. Medical records could not be reviewed for 45 (14%) individuals as we could not obtain the GPs consent for participation in the study. Reasons for non-participation of GPs in interviews where medical records were available were: lack of time (n=17); GP had retired or left the practice (n=14), no other GP knew the patient (n=11); or the GP had died (n=3).

3.3.1.4 Retrospective case note review as a method

Retrospective case note studies are commonly used within suicide research (NCI, 2012; DaCruz *et al*, 2010; King *et al*, 2001). Statements often support the retrospective assignment of diagnoses from case notes and other sources, such as coroner records. Case notes are not just aides-memoirs for doctors but are complex documents that can be used for teaching, research and clinical audit, as well as evidence in the event of litigation. Information obtained when a patient is admitted informs the whole diagnostic and care planning process, including risk management strategies. It also follows that admission notes will point towards a diagnosis and impart a clear treatment plan to a greater or lesser extent.

Primary care medical records can also provide information about the management process of patients in primary care, including consultation, treatment and referral data. Previous research has highlighted methodological limitations in the use of medical record reviews including variations in accuracy or the amount of detail provided (Mistry *et al*, 2005) and the risk of underestimating figures for consultations as not all are recorded in cases notes (Matthews *et al*, 1994). However, one study comparing GP records and patient self-report questionnaires found similar figures for the mean number of consultations in both sources (Mistry *et al*, 2005). Additionally, a systematic review into the quality of computerised medical records revealed that the recording of consultations on such systems tended to be high (Jordan *et al*, 2004).

3.3.2 Qualitative methods

The qualitative methods included semi-structured interviews with GPs following medical case note reviews for patients who had died by suicide. The research focused on the role of primary care in the management and treatment of patients in the months leading up to suicide. Primary care is usually involved at the initial stages of identifying health needs and in determining the care that a patient will subsequently receive. Thus, it seemed logical to begin by focusing on this phase of the care pathway, particularly as previous research in this area is sparse. In this study we were interested in interviewing GPs about their patients who had died by suicide and who had contact with mental health services in the year prior to death (approximately 25% of all suicides nationally). However, some patients may not have been seen in primary care in the first stage of the identification of their mental health needs as they may have been referred by the crisis teams in emergency departments after an initial risk assessment. Nevertheless, primary care is likely to have been involved in the subsequent and

ongoing care of these patients. The consultation data could also give an insight into the communication between primary care and mental health services following these contacts.

The topic of the study emerged naturally as a line of inquiry from studies included in the literature review. The studies found that the role of suicide prevention in primary care focussed on training GPs to identify, manage and assess suicide risk, particularly in patients with a diagnosis of depression (McDowell *et al*, 2011; Milton *et al*, 1999; DH, 2011).

However, as previously noted, GPs' views and perceptions about 1) the interactions and management of patients in primary care and 2) their relationships with mental health services for the management of patients prior to suicide had been relatively unexplored.

3.3.2.1 The interview as a method

In this study, qualitative interviews were used to explore GP views and perspectives on the role of primary care in the treatment and management of patients prior to suicide, influences on referrals to mental health services, and their experiences in accessing, or arranging access to, mental health services in primary care.

Interviews are probably the most widely used method of data collection in qualitative research. Research interviews can be structured, semi-structured or open ended (Britten, 1995). Structured interviews can be regarded as 'verbal questionnaires' and are least common in qualitative research; questions are predetermined and are read to the interviewee in a fixed order. Often questions are closed in nature, requiring dichotomous (e.g. yes or no) answers or instructing the interviewee to choose from a set list of options. Conversely, open ended interviews are much less structured, covering one or two pre-identified topics in great detail, with questions flowing from what the interviewee says. Thus the type, order and wording of

questions asked will vary from interview to interview. I chose to use semi-structured interviews. As the name implies, these lie somewhere in between structured and open ended interviews. Semi-structured interviews are based on a loose structure of pre-determined open ended questions, but there is sufficient flexibility to allow the topic of conversation to diverge in order to pursue an idea in more detail (Britten, 1995).

Broadly, there are four types of approaches to choose from in qualitative research: interviews, observations, documentation and artefacts (Creswell, 2009). Interviews have a number of advantages over other methods. Firstly, in comparison to observational methods, they can generate focused, detailed data on a specific topic of interest relatively quickly. However, in this study the patients were deceased and therefore observational methods could not be used. Secondly, the interactive quality of interviews is particularly valuable as it enables the researcher to flexibly adapt their approach *in situ*. Thus, unlike methods such as documentation or open-ended questionnaires alone, I could query participants' responses there and then, probing responses further to elicit greater detail. Semi-structured and open ended questions were used to encourage participants to expand on their own experiences and interpretations of events. Participants can provide historical information about their previous experiences relevant to the topic being studied; often this information would not be available in records or accessible even to the keenest observer. In the context of the current study, interviews allowed GPs to tell me about their experiences of managing suicidal patients in primary care which I could not have gathered elsewhere.

The semi-structured format of interviews enabled me to flexibly adapt my interview style to effectively engage with the diverse range of individuals I would meet, whilst addressing a common set of topics in each interview. Furthermore, it allowed both me and participants to

deviate from the questions and subjects identified *a priori* and introduce novel topics of discussion, which had not previously been considered. Unstructured interviews were not perceived to be a practical option. One of the purposes of this is to ensure interview content is appropriate and suitably sensitive for participants, which may have been difficult to demonstrate without a pre-prepared topic guide or schedule. Focus groups were discussed but I decided that these would not be appropriate as they would have compromised confidentiality and may have restricted what participants spoke about. Conducting one-to-one interviews enabled me to elicit GP views and perspectives individually and privately; I felt this was more suitable because I could guarantee anonymity, which was important considering the potentially sensitive nature of discussing personal experiences of patient suicide(s).

Polit and Beck (2006) describe interviews as ‘a method of data collection in which one person (an interviewer) asks questions of another person (a respondent): interviews are conducted either face-to-face or by telephone’ (cited in Whiting, 2008). Collecting retrospective suicide data through an interview has many advantages for example, high response rates are common (Appleton, 2006). Control over the interview process lies with the interviewer who can put the interviewee at ease by the use of effective interpersonal skills and the willingness to reword questions as necessary. Therefore in the interview setting, ambiguous or unclear questions which may be misinterpreted by the respondents can be clarified by the interviewer. Thus a wealth of detailed information can be obtained for a study. The literature also reveals the disadvantages of interviews (Polit and Hungler, 1991; Cormack, 1991). They are costly and time consuming both in terms of organising and travelling to the interviews and the length of the interview itself. They take a lot of time to transcribe, analyse and code. The quality of the data generated is largely dependent on the

skills and expertise of the interviewer (Guba and Lincoln, 1981). Pilot interviews are recommended to gain experience and the necessary skills required and were conducted in this study. Additionally, interviews are a form of self-report; the researcher must assume that the information given by the interviewee is an accurate account of their perception of a situation of what happened (Burns and Grove, 1987).

Although interviews are widely thought of as the gold standard in qualitative research (Silverman, 2005), no method is without its limitations. In particular, interviews may be able to be arranged but, arguably, are difficult to do well; the researcher becomes the research instrument. Common pitfalls include dealing with outside interruptions, competing distractions, asking awkward or sensitive questions, and avoiding the temptation to counsel interviewees (Field & Morse, 1989). Silverman (2005) argues that while interview data can be treated as a direct route to authentic experiences and perspectives outside of the research interview, it can also be seen as a narrative, actively and jointly constructed in a two-way process by interviewer and interviewee. Before choosing to use interviews, I carefully considered my options. Qualitative interviews - whilst rich sources of data - could be seen as 'artificial' situations which generate accounts of how individuals perceive phenomena, as told to an outsider (me). This might not necessarily provide an accurate reflection on how individuals act *in situ*. Although in this study the case notes help to 'round' what the interviewee is saying. Could I have used alternative, more 'naturalistic' methods to investigate the role of primary care in suicide prevention?

On balance, I felt that interviews which followed retrospective case note reviews for each deceased patient constituted the most appropriate and feasible approach available and would generate detailed, relevant and 'on topic' data. Interviews were a familiar concept to

participants, ethics committees and the primary audience of my research, GPs. Also, issues such as informed consent, security and researcher safety could be considered and dealt with in a planned, systematic manner with the aid of information sheets, consent forms and security protocols. With this in mind, I turned to the issue of reflexivity.

3.3.2.2 Reflexivity

Within the field of qualitative research, there is philosophical tension between those who believe that researchers can and should look beyond their preconceptions, and those who reject the notion that this is possible or even desirable (Tufford & Newman, 2012). My own view on the subject is that I cannot separate myself from my experiences. Nonetheless, I do agree that a level of transparency regarding one's experiences and background is useful to understand how this may have shaped the work. In particular, I acknowledge my previous interview experience, which helped me in the current study. I also recognise that my gender, ethnicity and qualifications were different from some of the GPs I interviewed and may therefore have particular implications for the way in which I was viewed. It is important to reflect upon my professional background and personal characteristics and consider how these may influence the way in which interviewees engage with me and how I gather and analyzed data. For example, it is possible that in perceiving such differences, interviewees (GPs) may have withheld information that they thought I would not understand or which they thought may implicate them due to the nature of the situation.

In the spirit of reflexivity, I opted for an active, open style in this thesis, striving to provide a transparent and detailed account of my methods and reasoning throughout. This, I think, was a more integrated approach to reflexivity in comparison to offering a separate autobiography

of my personal characteristics, background and experiences and will allow readers to make their own judgements.

3.3.2.3 Developing relevant materials for the GP interviews

On the basis of my aims, research questions and emerging ideas on the role of primary care in suicide prevention, I prepared a questionnaire proforma for the semi-structured interview schedule (see Appendix G and H), consisting of a variety of open and closed questions and prompts, specifically for this study. Schedules were intended to cover a broad range of topics and to capture a full range of management and treatment experiences of suicidal patients in primary care and create more opportunity for a detailed analysis. The schedules were adapted from validated questionnaire assessment tools used in previous suicide research (Cooper *et al*, 2002).

3.3.2.4 The interview process

In this study, semi-structured interviews were used to collect data from 206 participants including 198 GPs (59%) and 8 GP practice managers (2%). Four researchers completed the interviews; however, I completed the majority (n=166, 81%). Although other researchers carried out data collection, we tried to ensure a standardised use of the questionnaire and interview tools. Regular team meetings were held to discuss the information being collected and transcribed. Discussions were also had about potential changes or additions to the questionnaires or interview schedules.

Immediately prior to interviews, I explained to participants the purpose of the study and checked that they had received, read and understood the participant information sheet. I gave them an opportunity to ask questions and a chance to opt out of the study. Once they were

ready to proceed, each participant completed and signed a consent form, including consent to be audio recorded (Appendix E). Interviews were audio recorded using a Sony Minidisk recorder. Two participants exercised their right not to be audio recorded; on these occasions handwritten notes were taken instead. As guidance on interviews suggests (Britten, 1995), I began interviews with 'easier', closed and more factual questions (for example demographic information) before proceeding to open questions and more challenging topics.

During the interview I used the interview schedule (Appendix G and H) to guide the conversation. I strived to be an active interviewer, listening carefully, probing responses where necessary and showing interest throughout. It was often challenging to do this whilst simultaneously mentally phrasing the next question, attending to my surroundings and reflecting on whether questions had been sufficiently answered. As Wengraf (2001 p.194) says: "You must be both listening to the informant's responses to understand what he or she is trying to get at and, at the same time, you must be bearing in mind your needs to ensure that all your questions are liable to get answered within the fixed time at the level of depth and detail that you need". I engaged the participant in a two-way conversation, but tried to keep the focus on them, interjecting with my own comments, questions, probes and challenges, mainly to guide the topic of conversation and/or to keep the discussion going. At first, I strived to keep my comments relatively neutral and fairly non-directive (Whyte, 1982), however it became increasingly clear that this was not always sufficient to encourage interviewees to engage with me. I reasoned that if I wanted to hear what interviewees had to say, then appropriate displays of empathy, agreement and even occasional challenges were sometimes expected and/or necessary; in any case, my comments and influence on the course of conversation could be included and analysed in the thematic analysis.

The semi-structured nature of interviews meant that participants had the freedom to address topics of conversation not identified *a priori* on the interview schedule. This proved to be simultaneously an advantage and a disadvantage. Whilst this flexibility led to some fruitful and unanticipated lines of discussion, I sometimes struggled to guide more verbose interviewees back if discussion strayed off-topic for too long. Similarly, the ability to reorder questions was useful in allowing me to pursue natural shifts in conversation thereby preserving flow, but meant that I sometimes missed things or repeated questions. Overall, however the semi-structured format was largely successful and effective. All of the interviews took place at the GPs' practices and varied between 20-40 minutes. GPs were asked for information on the patients who had died by suicide – these included details of physical and mental health problems reported in all consultations and treatment offered in the year before death, specifically the final consultation. GPs were also asked about their views and perceptions relating to their concerns for the patient, the factors contributing to death, suicide prevention, and the local mental health services specifically for suicidal ideation and self-harm.

Interviews were brought to a close once the key topic areas on the schedule had been addressed, if the allotted time for the interview had ran out, or if the participant had to leave. At the end of interviews, I routinely gave participants an opportunity to summarise their thoughts and to discuss any other topic areas that they thought relevant but were not included in the interview schedules.

Following interviews, participants were debriefed. I thanked them for taking part and reminded them of their right to withdraw their data from the study (none did this), how their data would be used, who would have access to the recordings and how the findings from the

study would be disseminated. Participants were also given a further opportunity to ask questions about the study. A few participants asked if they could see the findings of the study and I informed them that the findings will be published in peer-reviewed journals.

Participants sometimes paused to chat following the interview. While we sometimes talked about topics unrelated to the interview, quite often participants offered further, often less guarded, comments on interview topics or reflected on how the interview had gone. While interesting and potentially useful, to resolve ethical dilemmas I decided that I would not use anything said after the recorder had been switched off (although it would be impossible to delete it from my thoughts or 'bracket' it off in my mind). I often used the time following interviews to make 'field notes' to record any special notes about context. Sometimes, perhaps due to having another interview, I was not able to do this straight away. In such cases notes were made later that day or at the earliest opportunity. I used such opportunities to reflect on any observations about the environment, the interviewee or non-verbal communication that could not be captured on audio recordings, in effect what the interaction 'felt like'. I also made notes to myself about new lines of inquiry to follow up in subsequent interviews, or amendments to questions that I discussed with the research team.

3.4 Ethical considerations

Relevant research approvals were gained from the research ethics committee, North West Multi-centre Research Ethics Committee, 02/8/74 and NHS Trusts. All interviewees gave informed written consent and took part voluntarily. The consent included permission for the researcher to audio record the interview and to access the deceased patient's primary care medical records for the purposes of the research. Potential participants all received a participant information sheet that fully described the study, rights to withdraw and the limits of confidentiality (Appendix D). All potential participants were given the opportunity to ask

the researcher questions before taking part. Participants gave their express written consent prior to the interview for direct quotations to be used in publications.

Researchers should take steps to minimise potential harm, both to the participants involved in the research and to themselves. Where potentially sensitive topics (e.g. suicide) were discussed during interviews, efforts were made to reduce the potential for causing harm or distress to participants. Questions were worded sensitively and during interviews I remained vigilant for signs of distress and, where necessary, reminded the participant that they could refuse to answer questions or stop the interview at any time. For example, when one participant became distressed whilst speaking about their patient who died by suicide I offered to stop the interview and reminded the participant that they did not have to continue. In this case they opted to carry on.

Precautions were taken to ensure the privacy of participants and the confidentiality of their personal data. Personal identifiable data from GP practices with regards to the participant or the deceased patient did not leave the GP practice and was handled only by members of the direct research team, unless prior written consent had been obtained. Interview recordings and signed consent forms were transported to the Inquiry office at the University of Manchester and stored on password-protected computers and/or locked filing cabinets (for manual data) in accordance with the Data Protection Act (1998). Only aggregate data and anonymised data (including direct quotations) were published.

It was also important to minimise potential harm to me as a researcher. The Box summarises the steps that I took.

Box 3: Agreed procedures to minimise risk of harm to the researcher

Prior to interviews:

- attend training with staff who are experienced in qualitative interviewing in suicide research
- apply a 'buddy system' with a member of staff in the office
- exclude any potential interviewees that were not 100% comfortable to participate in the study

During interviews:

- be prepared to terminate the interview if the participant is significantly affected by the interview

Following interviews:

- sign out of the GP practice (where such systems were in place)
- attend regular supervision sessions with my supervisor and debrief following GP interviews

3.5 Data analysis

Table 3: Data analysis used in each paper

| Paper | Topic | Data analysis |
|--------------|--|---|
| Paper 1 | GP consultation data for patients who have died by suicide | Quantitative |
| Paper 2 | Risk assessment in primary care prior to suicide | Quantitative |
| Paper 3 | Non-adherence to treatment and management of patients in primary care prior to suicide | Mixed methods including thematic analysis |
| Paper 4 | Service availability for suicide prevention | Mixed methods including thematic analysis |
| Paper 5 | GPs' perspectives on primary care consultations for suicidal patients | Qualitative thematic analysis |

3.5.1 Quantitative data analysis

Quantitative data analyses were conducted using SPSS for Windows (SPSS Inc. 2006-13) for papers one to four. Descriptive statistics were presented including percentages and 95% CIs.

When percentages were quoted, these referred to 'valid cases', i.e. those for whom the relevant information was available. Therefore, if an item of information was not known about a person, they were excluded from the analysis of that item. As a result the denominator may have varied slightly between analyses. For variables providing more than two possible

responses, the main factor of interest was selected and the response recoded following a binary format. As some of the responses occurred in only a small number of cases; binary coding provided more reliable estimates of odds ratios (Hawton *et al*, 1993). Data analysis for each paper was conducted differently as each paper focused on different aspects of management by primary and secondary care and will be described in the following sections.

3.5.1.1 Paper one

Data analyses were conducted using SPSS for Windows (SPSS Inc, 2006). Both parametric and nonparametric statistical tests were carried out when appropriate. These included the χ^2 test of association, Fisher's exact test, analysis of variance, Duncan's multiple range test, Mann-Whitney *U* test and the Kruskal-Wallis test (Steel, 1986). In this paper we wanted to compare ratings of risk and we considered immediate risk identified by mental health teams alongside GPs' concern for patient safety. Many of the independent variables in the questionnaire proformas were in binary format (presence/absence of factors). The independent variables were listed under the broad headings: demographic factors, clinical features and behavioural features (see paper one in the results section).

3.5.1.2 Paper two

The secondary care assessments of risk are divided into two categories: 1) perceived moderate and high risk and 2) perceived low or no risk. This approach was used because previous studies had suggested that even those rated as at moderate risk had a high incidence of adverse outcomes (Kapur *et al*, 2005). Unlike in the previous paper (Paper 1); in this paper we considered immediate and long-term risk identified by mental health teams - not just immediate risk. Mental health services rated only a small minority of individuals (approximately 10%) who died by suicide as at high immediate risk at last contact (NCI,

2010). Maximising the time horizon in this study meant that a greater number of potentially high risk individuals were included. These were more inclusive criteria and were more comparable with the GPs' ratings of being concerned for the patient (which had no time cut off). Many of the independent variables in the questionnaire proformas were in binary format (presence/absence of factors). The independent variables were listed under the broad headings: demographic factors, clinical features and behavioural features (see paper two in the results section).

Primary care and secondary care data were analysed separately. Stepwise logistic regression was carried out using SPSS version 20 (SPSS Inc, 2011) to compare the factors associated with primary care and secondary care doctors' ratings of the perceived risk of suicide. The best fitting data driven model for these variables were reported as the frequencies, odds ratios, their confidence intervals and *P* values. Descriptive analyses were used to compare the management and treatment of patients in primary care in the year prior to suicide. Both parametric and non-parametric statistical tests were carried out where appropriate. These included the chi-squared test of association, kappa statistic and analysis of variance.

3.5.1.3 Paper three

The recording of adherence to treatment (for medication or appointment attendance) was either: 1) adherent or 2) non-adherent. This data was obtained from primary care medical records, GP interviews and secondary care assessments. Diagnosis was not treated as a mutually exclusive variable - we allowed for overlapping diagnoses in order to take into account primary, secondary and tertiary diagnosis. Depression and anxiety were grouped together for the analysis. The independent variables were listed under the broad headings:

demographic factors, clinical features and behavioural features and treatment (see paper three in the results section).

Univariate analyses were carried out using SPSS version 20 (SPSS Inc, 2011) to explore the relationships between the clinicians rating of adherence with (i) key variables obtained from the NCI (secondary care) and (ii) variables relating to the management and treatment of patients in the year prior to suicide obtained from primary care. The frequencies, odds ratios (OR), *P* values >0.05 and 95% confidence intervals that included 1.00 indicated non significance and were reported. The *P* values <0.05 and 95% CIs that included OR > 1 indicated an elevated risk of non-adherence to medication. Forward stepwise regression analysis was also carried out. The variables in the final model were listed in the results section with corresponding *P* values (see paper three in the results section). The qualitative analyses completed for this paper will be described in the section below (3.5.2.2: Paper 3).

3.5.1.4 Paper four

Descriptive statistics were reported for GP responses to the service structure questionnaire. The qualitative analyses completed for this paper will be described in the section below (3.5.2.3: Paper 4).

3.5.1.5 Paper five

Descriptive statistics were reported for GP and patient characteristics. The qualitative analyses completed for this paper will be described in section below (3.5.2.4: Paper five).

3.5.2 Qualitative data analysis

In this study, semi-structured interviews were used to collect data from 206 participants including GPs (198 cases) and GP practice managers (8 cases). Using the Thematic Framework Method, we took a combined approach to analysis, enabling themes to be developed both inductively from the accounts (experiences and views) of research participants and deductively from existing literature. Regular team meetings facilitated our critical exploration of participant responses, discussion of deviant cases and agreement on recurring themes.

3.5.2.1 Transcription

Although recordings are useful tools, indeed the primary data source, in qualitative research, by themselves they can be difficult to systematically analyse. Transcripts are therefore invaluable. Transcribing is not, however, a neutral process; rather, it is “inherently selective and interpretive” (Edwards, 2003 p.321). Transcription inevitably results in features of the interaction being erased, such as contextual or non-verbal data (Miles & Huberman, 1994 p.56). Decisions are made about what to include, the level of detail and how to present it. For such reasons, Silverman goes even further, proposing it is synonymous with data analysis (Silverman, 2005 p.83): ‘the preparation of a transcript from an audio or videotape is a theoretically saturated activity... it is data analysis’. For such reasons, I elected to do my own transcription. Transcription is a notoriously slow process, often delegated to professional companies. However, I felt that transcribing the interviews myself offered a number of tangible advantages, including helping to familiarise myself with the data, providing an opportunity to reflect on my interview style, reducing inaccuracies, increasing reliability (one transcriber) and conserving research funds. Factors such as inaudibility (loud environments

with lots of background noise) and strong regional accents could make it especially difficult for others to transcribe.

Approximately half of the interviews were transcribed during the data collection stage; the remainder were transcribed on completion. In transcription, decisions have to be made with regard to both format and content. Recordings can be transcribed in different levels of detail. In this study, all of the interviews were transcribed for the GP responses to each open-ended question on the semi-structured schedules, and of those, the final 39 interviews were transcribed verbatim by PS. Of the total 206 interviews, 159 (77%) were completed and transcribed by PS (myself) and 47 (23%) by three other researchers (AP, CM and DD). Pronunciations and regional accents were not preserved.

3.5.2.2 Paper three

Thematic analysis was used to analyse GP interview transcripts (Braun & Clark, 2006). Thematic analysis was selected as an appropriate method for examining the interview data because it provides a way of getting close to the data and developing a deeper appreciation of the content. The analysis was conducted by the primary researcher (PS), and by the secondary researcher (KC) who supervised PS. The main themes and codes of interest were determined by using the steps recommended by Braun and Clarke (2006): listening to interview recordings and reading each transcript several times to establish familiarity with the whole interview and generating descriptive codes to represent the main themes. The initial codes of interest were generated systematically across the entire data set and were then grouped into a set of emerging themes. Ongoing analysis refined the specifics and formulated the conceptual name of each theme. The final part of the analysis was the selection of the interview extracts, relating the analysis to the research question and literature. The process of refinement and

validation of findings was conducted through a collaborative exercise creating iterative feedback loops. Transcripts were examined for one group of the data set where patients were reported to be non-adherent to treatment by GPs. The data were interpreted and reanalysed within the thematic framework to interpret and structure the component statements.

3.5.2.3 Paper four

An inductive approach to the interview data was used, utilising framework analysis (Ritchie and Spencer, 1994) to identify key themes for the initial 159 GP interview transcripts. To ensure similarity in transcription style across the whole dataset, in the early stages of the project all members of the research team (PS, AP, CM and DC) who were responsible for carrying out transcription examined their proformas to ensure comparable formatting, until satisfied that any inconsistencies had been resolved. Data was written on the proformas designed for the interview data, under each relevant section. We checked all data for errors by listening back to the audio-recording and reading the proformas simultaneously. PS conducted majority of the interviews (77%). PS listened back to the audio-recorded interviews to become familiar with the whole data set. This familiarisation process was essential in cases where PS was not the researcher present during the interview.

Familiarisation through reading and making notes in this way enabled PS to find her way easily around hundreds of pages of data later in the analysis.

Initially two members of the research team (PS and LC – an expert in qualitative research methods), each from different backgrounds, independently coded the same eight proformas completed with the interview data. They underlined interesting segments of text and used the left hand margin to describe the content of each passage with a label or code. This could range from only a few words, to parts of sentences or whole paragraphs. They then used the

right hand margin to record more detailed notes and ideas, for example questions to bear in mind as the analysis proceeded, and ideas for explanations or patterns in the data. The researchers emphasised interesting parts of the data that they felt were worth coding or noting. In this approach, one piece of data (e.g. one statement, one theme) was taken and compared with all information for similarities or differences. The data was set out on a framework of three main themes, sub themes and quotes as examples for each sub theme. The analysis was principally conducted by the primary researcher (PS). Transcripts were examined across the whole data set by PS in the context of each interview, using thematic framework analysis. The proformas with transcript extractions were read independently and emergent themes and key issues were discussed with the secondary researcher (LC). The data were interpreted and reanalysed within the thematic framework to interpret and structure the component statements. After discussion, we agreed on a set of codes, each with a brief definition. This formed the initial analytical framework (see paper four in the results section).

3.5.2.3 Paper five

The findings from the initial interviews led to the inclusion of 50 extra cases of suicide and the completion of 39 additional GP interviews related to as many of these cases as possible. The interviews included further questioning with regard to the relationship between GPs and mental health services when managing patients who were treated by both care services prior to suicide. These interviews were transcribed verbatim and thematic analysis was conducted and was underpinned by an interpretivist epistemology. Thus, there was an emphasis on how the role of primary care in the treatment of management of suicidal patients was perceived from the GPs' perspectives. Thematic analysis was selected as an appropriate method for examining the interview data because it provided a way of getting close to the data and

developing a deeper appreciation of the content. It is also flexible, and likely to yield clear findings that are accessible to practitioners and policy makers (Braun & Clarke, 2006). The analysis was conducted by the primary researcher (PS), and by the secondary researcher (KC) who supervised PS.

Thematic analysis was conducted by using the steps recommended by Braun and Clarke (2006): listening to interview recordings and reading each transcript several times to establish familiarity with the whole interview and generating descriptive codes to represent the main themes. The initial codes of interest were generated systematically across the entire data set and were then grouped into a set of emerging themes. Ongoing analysis refined the specifics and formulated the conceptual name of each theme. The final part of the analysis was the selection of the interview extracts, relating the analysis to the research question and literature. The process of refinement and validation of findings was conducted through a collaborative exercise creating iterative feedback loops between the primary and secondary researcher. Further discussion between authors resulted in the identification of themes specifically relevant to the conundrum GPs face when treating and managing suicidal patients.

3.6 Summary

This chapter has described the rationale for a mixed methods study of primary care consultation prior to suicide, rooted in pragmatism. Methods for the papers, which are both quantitative and qualitative in nature, were described. In summary, a retrospective case note reviews and semi-structured interviews were designed to answer the research questions, with the aim of exploring GP views and perspectives on the role of primary care in the treatment and management of patients prior to suicide. We aimed to explore GP's views on referrals to mental health services, their experiences of accessing, or arranging access to, mental health

services in primary care, and the training they received for mental health and suicide risk assessments.

This chapter also provides an overview of the design of the study, data collection procedures, ethical considerations and the data analysis conducted for each paper. The thesis is presented in an 'alternative format'. Five interlinked studies were undertaken to establish the consultation rates, characteristics, treatment and management of patients who consulted in primary care in the year prior to suicide. Patients had at least one contact with mental health services in the year prior to death thus giving opportunity for comparisons to be made between the risk assessment and management of patients by both primary care and mental health services. This thesis offers a qualitative perspective on GPs' views and perceptions about the treatment and management of individuals who were in contact with primary care and mental health services in the year prior to suicide. Additionally, GPs reflected on their relationship with mental health services with regards to their patients who consulted with them prior to suicide and treatment availability for mental illness, self-harm and suicidal ideation generally. The next section will present the papers as they have been published or submitted to peer-reviewed journals.

Chapter 4: Results

In chapter four I will include the five papers that have been written and/or published in peer-reviewed journals.



British Journal of General Practice

bringing research to clinical practice

4.1 Paper 1: Pearson, A., Saini, P., Da Cruz, D., *et al.* (2009) **Primary care contact prior to suicide in individuals with mental illness.** *British Journal of General Practice*, 59 (568), 826-832.

Primary care contact prior to suicide in individuals with mental illness

Anna Pearson, Pooja Saini, Damian Da Cruz, Caroline Miles, David While, Nicola Swinson, Alyson Williams, Jenny Shaw, Louis Appleby, and Navneet Kapur

ABSTRACT

Background

Previous studies have reported differing rates of consultation with GPs prior to suicide. Patients with a psychiatric history have higher rates of consultation and consult closer to the time of their death.

Aim

To investigate the frequency and nature of general practice consultations in the year before suicide for patients in current, or recent, contact with secondary mental health services.

Design of study

Retrospective case-note study and semi-structured interviews.

Setting

General practices in the northwest of England.

Method

General practice data were obtained by a retrospective review of medical records ($n = 247$) and semi-structured interviews with GPs ($n = 159$).

Results

GP records were reviewed in 247 of the 286 cases (86%). Overall, 91% of individuals ($n = 224$) consulted their GP on at least one occasion in the year before death. The median number of consultations was 7 (interquartile range = 3–10). Interviews were carried out with GPs with regard to 159 patients. GPs reported concerns about their patient's safety in 43 (27%) cases, but only 16% of them thought that the suicide could have been prevented. Agreement between GPs and mental health teams regarding risk of suicide was poor. Both sets of clinicians rated moderate to high levels of risk in only 3% of cases for whom information was available ($n = 139$) (overall $\kappa = 0.024$).

Conclusion

Consultation prior to suicide is common but suicide prevention in primary care is challenging. Possible strategies might include examining the potential benefits of risk assessment and collaborative working between primary and secondary care.

Keywords

general practice; mental health services; risk assessment; suicide.

INTRODUCTION

The reported proportion of individuals who have consulted GPs in the month prior to suicide has varied between 20% and 76%.^{1,2} Low rates of consultation have been recorded in those aged <35 years³ and high rates in those aged >60 years.^{4–6} Those with a history of contact with mental health services have been shown to consult their GP closer to the time of suicide compared with those without such contact — studies have reported that half of these individuals consulted their GP in the month before death and a quarter in the week before death.^{3,7} Similarly, studies have found that those who die by suicide are significantly more likely to have received a mental health diagnosis (of depression, anxiety, and alcoholism in particular) and to consult their GP more frequently than age- and sex-matched living controls.⁸

With regard to the communication of suicidal intent, one study reported that 31% of individuals who died by suicide discussed such thoughts or plans in consultations with their GPs, but that practitioners felt 42% were at increased risk.⁹ Figures for communicating suicidal intentions at the final GP

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How this fits in

Previous research has reported high rates of consultation with GPs prior to suicide and has raised concerns about the low levels of risk assessment. In the present study, the average rate of GP consultations in the year before death for those in current, or recent, contact with mental health services was high. However, only a minority (just over a quarter) of GPs reported concerns about their patient's safety at the final consultation and only a sixth thought that the suicide could have been prevented. In terms of risk assessment, agreement between primary and secondary care clinicians was poor. Future research and prevention strategies might examine ways of improving health professionals' identification of suicide risk and improving collaborative working between primary and secondary healthcare services. The impact of any initiatives on suicide rates and suicidal behaviour should also be measured.

consultation have varied.^{7,10} One study reported that the majority of those communicating suicidal intent also had a history of contact with psychiatric services.⁷

Mental illness is known to be an important risk factor for suicide. In 2004 there were 4883 suicides in England and Wales, 27% of which were by people who had been in contact with mental health services in the year before their death.¹¹ Previous research examining primary care consultations before suicide in those with a psychiatric history has used comparatively small samples^{3-5,8} and has not considered the role of individual mental health diagnoses.³⁻⁷

The National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (Inquiry) collects detailed clinical information from secondary mental health services on a national sample of suicides by people in current, or recent (within the previous 12 months), contact with such services. This study reports the results of an extension to Inquiry data collection for a sub-sample of patients to include detailed information from GPs in order to examine patterns of attendance in primary care with a view to informing prevention. The specific aims of the study were to:

- examine patterns of attendance at general practice in the year before death for a comprehensive sample of Inquiry cases;
- examine rates of consultation at primary care by mental health diagnosis;
- compare the characteristics of those with no or low levels of GP consultations with those who attended more frequently; and
- examine in detail the final general practice consultation before death.

METHOD

Sample

The methodology employed by the Inquiry has been

described in detail elsewhere¹¹⁻¹³ but, in short, information on all general population suicides and deaths from undetermined external causes is obtained from the Office for National Statistics. Mental health services identify those people in contact with services in the 12 months before death. Clinical data on these patients is then obtained through questionnaires sent to consultant psychiatrists. The Inquiry, therefore, provides a UK-wide case series of all suicides by people in mental health service contact in the year prior to death. The ascertainment procedures are robust and the response rate for questionnaire data is more than 95%, which reflects the Inquiry's long-standing relationship with mental health professionals nationally.¹¹

The sample for this study included people residing in the northwest of England, who had been in contact with mental health services and had died by suicide between January 2003 and December 2005. This area consisted of three strategic health authorities (Cheshire & Merseyside, Greater Manchester, and Lancashire), which merged in 2006 to form NHS North West and had an estimated population of 6 853 200.¹⁴

Measures

The Inquiry database was used to obtain baseline demographic and clinical data. General practice data were obtained by retrospective reviews of primary care medical records, both written and electronic. Where possible, semi-structured interviews were conducted with consenting GPs. The medical records questionnaire and interview schedule were adapted from tools used in previous research.^{11,12,15,16} Information was obtained on the patient's physical and mental health problems, consultations in the year before death, details of the final consultation, and views on prevention. Case-record reviews took approximately 1 hour and interviews generally lasted between 20 and 40 minutes. All interviews and most case-record reviews took place in the GPs' surgeries, but some records were viewed at primary care trust premises. Interviews were recorded if participating GPs consented to this.

Analysis

Data analyses were conducted using SPSS for Windows (version 15). Both parametric and non-parametric statistical tests were carried out when appropriate. These included the χ^2 test of association, Fisher's exact test, analysis of variance, Duncan's multiple range test, Mann-Whitney *U* test and the Kruskal-Wallis test.¹⁷ When percentages are quoted these refer to 'valid cases' (that is, cases for whom the relevant information were available); as a result the denominator varies between items. With respect

to the interviews, much of the data were presented as simple frequencies. An inductive approach to the interview data was also used, utilising framework analysis to identify key themes (P Saini *et al*, unpublished data, 2009).

RESULTS

During the study period a total of 286 individuals in northwest England committed suicide within 12 months of contact with mental health services. GP records were reviewed in 247 (86%) cases. Baseline characteristics of the patients are given in Table 1. In terms of sex, age, civil status, living circumstances, employment status, and clinical characteristics no significant differences were noted between the patients for whom GP data were obtained and those for whom it was not ($n = 39$).

Case-note data

GP attendance in the year prior to suicide. Figure 1 illustrates the total number of GP consultations in the year prior to death. Most individuals ($n = 224$, 91%) had at least one face-to-face consultation during this time, with the mean number of attendances being 8.3 (median = 7, interquartile range [IQR] 3–10). Fisher's exact and χ^2 tests were conducted to see if there were any significant differences between those who did, and did not, consult. No significant differences were observed in terms of sex, age, subject to enhanced aftercare (care programme approach), and missed last mental health contact.

Frequency of consultations. Figures for the average number of consultations in the year before suicide by primary mental health diagnosis are provided in Table 2. Both the one-way ANOVA and Kruskal–Wallis tests revealed significant differences, with those diagnosed with schizophrenia recording the lowest number of consultations and those diagnosed with other disorders (for example, dementia and organic disorders) or depressive illness/anxiety disorders the most. A Duncan's multiple range test found these three diagnostic groups to be homogenous subsets.

In 47 (21%) cases at least one consultation resulted from previous non-fatal suicidal behaviour or self-harm.^{18,19} A further analysis based on past history of suicidal behaviour revealed no significant differences in the mean number of consultations for those with, and without, a history of self-harm.

The sample was divided into frequent consulters (≥ 6 consultations, $n = 123$, 50%) and less frequent consulters (0–5 consultations in the year prior to death, $n = 124$, 50%). Few significant differences were observed, but those who consulted frequently tended to be older than those who did not (median age 51 years [IQR = 39–61 years] versus median age

Table 1. Baseline characteristics of the 247 patients who committed suicide and whose medical records were reviewed.^a

| Characteristic | <i>n</i> | % | 95% CI |
|---|----------|----|----------|
| Sex (<i>n</i> = 247) | | | |
| Male | 16 | 68 | 62 to 73 |
| Female | 80 | 32 | 27 to 38 |
| Age, years (<i>n</i> = 247) | | | |
| <35 | 60 | 24 | 19 to 30 |
| ≥ 35 –46 | 63 | 26 | 20 to 31 |
| ≥ 46 –57 | 59 | 24 | 19 to 29 |
| ≥ 57 | 65 | 26 | 21 to 32 |
| Primary diagnosis (<i>n</i> = 245) | | | |
| Schizophrenia/other delusional disorders | 50 | 20 | 15 to 25 |
| Bipolar affective disorder | 16 | 7 | 3 to 10 |
| Depressive illness and anxiety disorders | 104 | 42 | 36 to 49 |
| Drug/alcohol dependence | 30 | 12 | 8 to 16 |
| Personality disorders/adjustment disorders | 31 | 13 | 8 to 17 |
| Other (for example, dementia, organic disorders) | 14 | 6 | 3 to 9 |
| Method of suicide (<i>n</i> = 245) | | | |
| Self-poisoning | 79 | 32 | 26 to 38 |
| Carbon monoxide poisoning | 9 | 4 | 1 to 6 |
| Hanging | 89 | 36 | 30 to 42 |
| Drowning | 17 | 7 | 4 to 10 |
| Jumping (for example, from height, in front of moving object) | 31 | 13 | 8 to 17 |
| Other (for example, firearms cutting, burning, suffocation) | 20 | 8 | 5 to 12 |
| Clinical characteristics | | | |
| History of deliberate self-harm (<i>n</i> = 236) | | | |
| Yes | 174 | 74 | 68 to 79 |
| No | 62 | 26 | 21 to 32 |
| Subject to enhanced aftercare, CPA (<i>n</i> = 237) | | | |
| Yes | 96 | 41 | 34 to 47 |
| No | 141 | 59 | 53 to 66 |
| Missed last mental health appointment (<i>n</i> = 211) | | | |
| Yes | 57 | 27 | 21 to 33 |
| No | 154 | 73 | 67 to 79 |
| Non-compliant with medication (<i>n</i> = 220) | | | |
| Yes | 39 | 18 | 13 to 23 |
| No | 181 | 82 | 77 to 87 |

^aBaseline information from National Confidential Inquiry database. CPA = care programme approach.

42 years, [IQR = 33–53 years]), Mann–Whitney $U = 5742.500$, $P = 0.001$). A significant association with living circumstances was evident. Of those living with a spouse or partner, 43 (61%) were frequent consulters, whereas only 10 (24%) of those living with their parents or children were frequent consulters ($\chi^2 = 16.482$, degrees of freedom [df] = 3, $P = 0.001$). Where known (228 cases) the figures for living circumstances for the cases where medical records were reviewed were: alone $n = 99$, 43%; with spouse/partner (with or without children) $n = 70$, 31%; with family (parents or children) $n = 42$, 18%; and other (other shared, residential, or prison) $n = 17$, 8%.

Timing and reason for final consultation. The final GP consultations were examined in more detail and the timings of these are presented in Figure 2. The

Figure 1. Total number of GP consultations in the 12 months before death (n = 247).

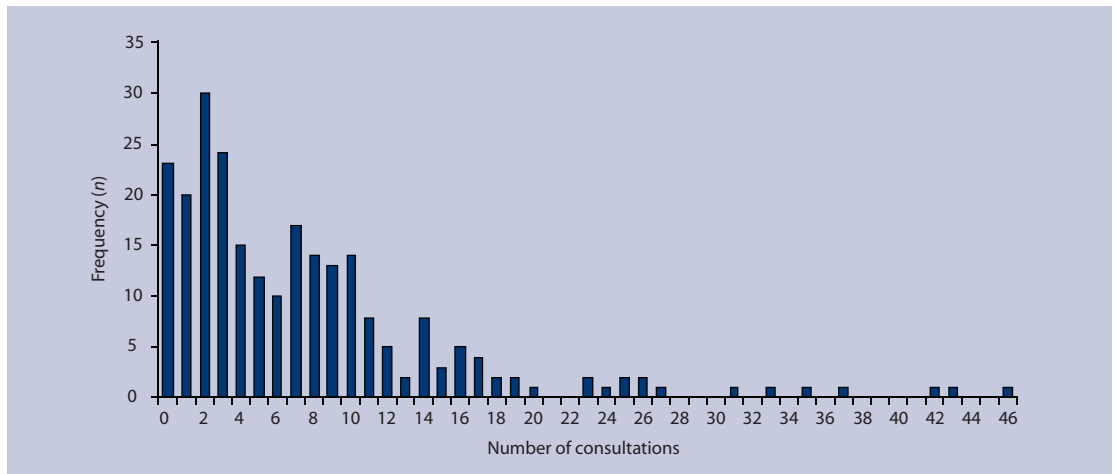


Table 2. Number of GP consultations in the year before suicide for those who were in contact by primary diagnosis.

| Primary diagnosis | n | Mean (95% CI) | Median (IQR) | Min | Max |
|--------------------------------------|-----|--------------------|----------------|-----|-----|
| Schizophrenia/delusional disorders | 43 | 4.6 (3.4 to 5.8) | 3 (2.0–7.0) | 1 | 15 |
| Bipolar affective disorder | 16 | 6.9 (4.3 to 9.5) | 6.5 (2.0–10.0) | 1 | 17 |
| Depressive illness/anxiety disorders | 98 | 9.7 (8.0 to 11.4) | 7 (3.8–12.3) | 1 | 43 |
| Drug/alcohol dependence | 25 | 8.2 (5.7 to 10.7) | 7 (3.0–11.0) | 1 | 23 |
| Personality/adjustment disorders | 28 | 9.2 (5.5 to 12.9) | 5.5 (3.0–10.5) | 1 | 37 |
| Other (dementia/organic disorders) | 12 | 10.4 (2.9 to 18.0) | 8 (4.0–10.5) | 1 | 46 |
| Total | 222 | 8.3 (7.3 to 9.3) | 7 (3.0–10.0) | 1 | 46 |

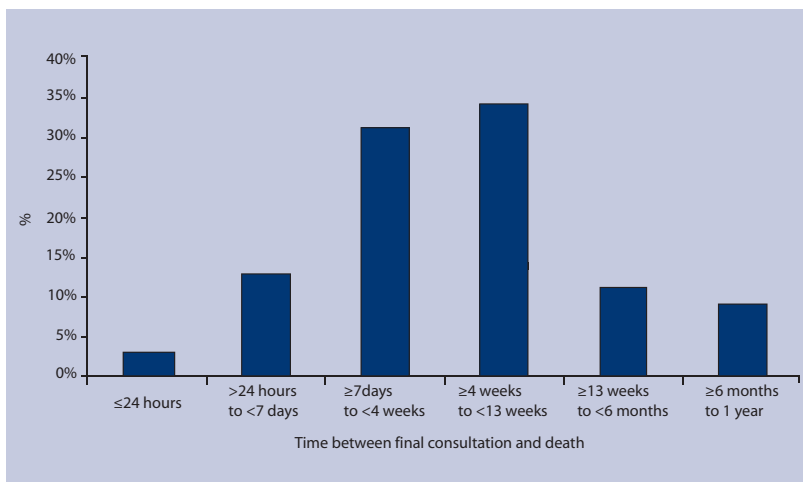
ANOVA: sum of square = 895.039, df = 5, mean square = 179.008, F = 2.995, df = 5, P = 0.012. Kruskal-Wallis: $\chi^2 = 18.597$, df = 5, P = 0.002. df = degrees of freedom. IQR = interquartile range.

majority of the sample who did consult within 12 months of death had their final consultation within 6 months of their death (n = 204, 91%). A total of 105 people (47%) were seen in the month before death and 76 (34%) of these were also seen by mental health services during this time. Given the results of the frequency of consultation by primary diagnosis, it was not surprising to find that more than half of those with depressive illness/anxiety disorders (n = 58, 59%) and only a quarter of those with schizophrenia (n = 11, 26%) had their final GP consultation less than a month

before their death ($\chi^2 = 14.558$, df = 5, P = 0.012).

In over half of the cases reviewed, the primary reason for the final consultation recorded in the notes was psychological symptoms (n = 122, 54%); 52 (23%) were primarily for physical health reasons and 36 (16%) for both psychological and physical health needs. No relationship was observed between the reason for final consultation and whether this consultation occurred within the month before death ($\chi^2 = 0.608$, df = 2, P = 0.739).

Figure 2. Time between final GP consultation and death (n = 224).



Interview data

In total 159 semi-structured interviews were carried out, representing 64% of those for whom the study had primary care case note data (n = 247). Comparison of baseline characteristics of those for whom the study did, and did not, have GP interview data revealed no significant differences in terms of sex, age, civil status, living circumstances, employment status, primary mental health diagnosis, method of suicide, and clinical characteristics.

Suicidal thoughts at final consultation. In interviews, 23/159 GPs (15%) reported that their patient had expressed suicidal thoughts or intentions during their final consultation; however, no significant difference was observed in the timing of this consultation (final

Table 3. Number of GP consultations in the year before suicide for those who were in contact by concern for patient safety at final consultation.

| Concern for patient safety at final consultation | <i>n</i> | Mean (95% CI) | Median (IQR) | Min | Max |
|--|----------|--------------------|--------------|-----|-----|
| No | 109 | 8.0 (6.6 to 9.5) | 7 (2.5–10.0) | 1 | 42 |
| Yes | 42 | 11.6 (8.1 to 15.0) | 8 (3.0–16.5) | 1 | 46 |
| Total | 151 | 9.0 (7.6 to 10.4) | 7 (3.0–11.0) | 1 | 46 |

ANOVA: sum of square = 377.632, *df* = 1, mean square = 377.632, *F* = 5.000, *P* = 0.027. Kruskal–Wallis: χ^2 = 3.445, *df* = 1, *P* = 0.063. *df* = degrees of freedom. IQR = interquartile range.

consultation <1 month before death, *n* = 13 [57%], versus final consultation \geq 1 month before death, *n* = 10 [44%].

Concern for patient safety at final consultation. Forty-two (42/159, 26%) GPs stated in interviews that they were concerned for their patient's safety during the final consultation. The mean number of GP consultations in the year before suicide was significantly higher for those patients for whom the GP reported having concerns about their safety (Table 3). Additionally, where GPs had reported concerns, the patient was significantly more likely to have had their final consultation within the month before death (final consultation <1 month before death *n* = 26 [62%], versus final consultation \geq 1 month before death *n* = 16 [38%], $z = 5.289$, *df* = 1, *P* = 0.021).

In 27 (64%) cases where GPs reported being concerned, they reported contacting mental health services to discuss and refer their patients for further assessment or treatment. In most of these cases the patients were assessed and some were admitted to hospital. However, two GPs reported that their referrals were not acted upon; in both cases the patients died within 2 weeks of their final GP consultation. An additional four (10%) GPs offered referrals but they were declined by the patients. In two cases the GPs did not elaborate on the reason for the referral being declined, in the others the GPs stated that both the patients and their families did not want an admission to hospital.

Risk. GPs' concern for their patient's safety was also compared with Inquiry data regarding the level of risk of suicide perceived at final mental health service consultation by the mental health teams completing the general Inquiry questionnaire (Table 4). The study had both sets of assessments for 139 cases, so this

was the denominator for these analyses. These results should be interpreted cautiously because the primary care and mental health assessments may have been carried out some time apart. In 91 (65%) cases there was agreement between GPs and mental health teams that the patient presented little or no risk during their final consultation. Moderate to high levels of risk were identified more often by GPs. However, there were only four (3%) cases where both sets of clinicians were concerned for the patient's safety or rated their level of risk as moderate to high (overall $\kappa = 0.024$, strength of agreement = poor).

Prevention. Only 26/159 GPs (16%) reported in interview that they felt that the suicide could have been prevented; 60 (38%) thought that it could not, and the remaining 73 (46%) were unsure. No association was observed between views on preventability and whether the final consultation was within the month before death ($\chi^2 = 0.056$, *df* = 1, *P* = 0.813).

When asked to elaborate on how GPs thought the death could have been prevented several key themes emerged. Improving access to services was identified as being important with some GPs reporting a lack of appropriate services, while others highlighted the delays their patients had experienced when being referred to services, or difficulties in admitting patients where the GPs thought that this was appropriate. GPs also suggested the need to improve information sharing between services, particularly with regard to their being provided with information about discharges or changes in risk promptly. GPs also commented on the need to improve the quality of monitoring and follow-up of patients both in hospital and in the community, especially in cases where patients had absconded from hospital or were failing to attend appointments.

Table 4. Risk at final consultation perceived by GPs and mental health teams.

| | GP concern for patient safety – no | GP concern for patient safety – yes | Total |
|---|------------------------------------|-------------------------------------|-------|
| Mental health team rated no/low risk | 91 | 36 | 127 |
| Mental health team rated moderate/high risk | 8 | 4 | 12 |
| Total | 99 | 40 | 139 |

DISCUSSION

Summary of the main findings

The majority of patients in this study were seen by their GP on at least one occasion in the year before death and the average rate of attendance for this time period was high. Those with depressive illness/anxiety disorders or other disorders (organic/dementia) tended to consult more frequently than individuals with other diagnoses; the high consultation in the group with organic disorders/dementia could perhaps reflect the burden of physical morbidity). Almost half of all patients had their final GP consultation in the month before death and one-sixth in the week before death. Just over one-quarter of GPs reported being concerned for their patient's safety and one-sixth reported that their patient had expressed suicidal thoughts at final consultation. However, GPs and mental health services were not always in agreement about the level of risk present at final consultation. One-sixth of GPs stated that they thought the suicide could have been prevented.

Strengths and limitations of the study

One limitation to this study was that records based data were used. Previous research has highlighted methodological limitations in the use of medical record reviews, including variations in accuracy or the amount of detail provided²⁰ and the risk of underestimating figures for consultations as not all are recorded in case notes.⁷ However, one study comparing GP records and patient self-report questionnaires found similar figures for the mean number of consultations in both sources.²⁰ Additionally, a systematic review into computerised medical records revealed that the quality of the recording of consultations on such systems tended to be high.²¹

The response rate for case record reviews was 86%. However, interview data was obtained on only 64% of those for whom the study had case records. In some cases GP interview data was unavailable as the GP had retired or died; others declined to be interviewed, often citing pressures of time. It is possible that some GPs may have been concerned about their assessment of suicidal risk; this may have introduced a selection bias. However, where the study was able to compare the baseline characteristics of those for whom it did, and did not, have case-record data and for those for whom it did, and did not, have GP interview data there were no differences between the groups.

This was a retrospective study and interviews may have been subject to recall bias, although this is unlikely to have had a significant impact on the medical records data. However, the sample consisted of suicides in current, or recent, contact with mental health services from the northwest of England and no

comparison group of those who did not die by suicide was included. As such, the results may not be generalisable to other regions or individuals who died by suicide and did not have contact with mental health services and the study is unable to draw firm aetiological conclusions.

Comparison with existing literature

According to the Office for National Statistics' General Household Survey²² in 2007, 13% of adults and children (15% females and 11% males) consulted an NHS GP in the 14 days prior to interview; this has remained relatively consistent for the past 30 years. The survey also reported that the average number of consultations for 2007 was four (five for females and four for males), with the majority occurring at a GP surgery (88%).

Previously reported figures for the number of people consulting their GP in the year before suicide in general population samples have ranged from 57% to 90%.^{1,7,23} In the present study, of those in contact with mental health services, 91% had consulted their GP on at least one occasion in the year before suicide. In terms of consultation in the month and week before suicide the figures found in this research (month before 47%, week before 16%) are similar to previous studies of those not under the care of secondary mental health services.^{3,7,23} However, recent contact with patients (within a year of death) who go on to die by suicide is still relatively rare for GPs.^{7,9,24} For example, it has been estimated that, 'In an average list size of 1000 it will take 8 years of consultations before a GP will consult a patient who will shortly thereafter commit suicide.'²⁴

In this study the mean number of GP consultations in the year before death was 8.3 and even higher rates of consultation were recorded for those diagnosed with organic disorders/dementia and depressive illness/anxiety disorders. This is higher than rates of consultation in a previous study of individuals with and without psychiatric histories who died by suicide.⁸ The lower rates of GP contact for those diagnosed with schizophrenia observed in this study may reflect the fact that mental health services take a more active role in providing treatment for this group or that such individuals are reluctant to seek health care. A lower rate of attendance among younger people was observed in this study. A recent qualitative study found that many young adults held negative views about GPs as a source of support for mental health problems.²⁵

For a fifth of the sample at least one consultation had been as a result of a previous act of self-harm or a suicide attempt, however, the communication of suicidal intent at the final consultation was only reported for 15% of patients. The corresponding figure in previous studies has ranged from 3% to 31%.^{7,9,10} When asked for their views on how the

suicides that took place could have been prevented GPs identified several problems including access to services, communication between primary and secondary services, and monitoring of both in- and outpatients, particularly those failing to attend appointments, all of which have been identified as problematic in the past.²⁶⁻²⁸

Implications for future research and clinical practice

All patients in this study were in contact with mental health services in the year before their death and, clearly, mental health services have an important role to play in preventing the suicide of such patients. There are a number of ways in which this might be done.¹¹ Most individuals in this study continued to consult their GP in the year before death, some on a frequent basis, and some shortly before their death. This may represent an additional opportunity for prevention. However suicide prevention in primary care is a challenging task.

Of particular importance is the recognition of risk. In this study many patients had a history of non-fatal suicidal behaviour and some GPs reported patients expressing suicidal ideation during the final consultation. However, only a minority of GPs expressed concerns regarding their patient's safety. This may reflect the retrospective nature of the study, the actual (low) risk at the time of assessment, or an underestimation of risk. The assessment of risk is difficult. Previous research has raised concerns about the lack of risk assessment for suicide in primary care settings.²⁹⁻³¹

It is interesting that GPs appeared more willing to acknowledge risk than the specialist mental health services in this study and that the level of agreement between these groups regarding risk was poor; as stated earlier, however, these results should be interpreted with some caution. The whole area of risk assessment, particularly the process and methods of assessment, would benefit from further research.

Recent research has commented on the need to improve medical student education in suicide prevention, including diagnostic interviewing skills, and has found both students and GPs to be supportive of a suicide-prevention curriculum.³²⁻³⁴ However, evidence for the efficacy of educational initiatives in the prevention of suicide has been mixed.³⁵⁻³⁷

In light of the views on prevention expressed by some GPs in this study it may be advantageous to develop strategies to improve multidisciplinary working and communication between secondary mental health services and primary care. For example, standards have been agreed within the NHS contract to reduce the length of time taken for hospitals to provide discharge summaries to GPs (in

April 2010 summaries should be provided within 24 hours of discharge).²⁷ Additionally, evidence from primary research (much of it carried out in the US) suggests that the collaborative care model has been effective in improving patient outcomes.³⁸ The impact of any such initiatives on suicide rates and suicidal behaviour should be carefully assessed in order to inform future prevention strategies.

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National Patient Safety Agency (MREC02/8/74)

Ethics committee

North West Multi-centre Research Ethics Committee (02/8/74)

Competing interests

Louis Appleby is the National Director for Mental Health, England. Navneet Kapur is Chair of the Guideline Development Group for the new NICE guidelines on self-harm

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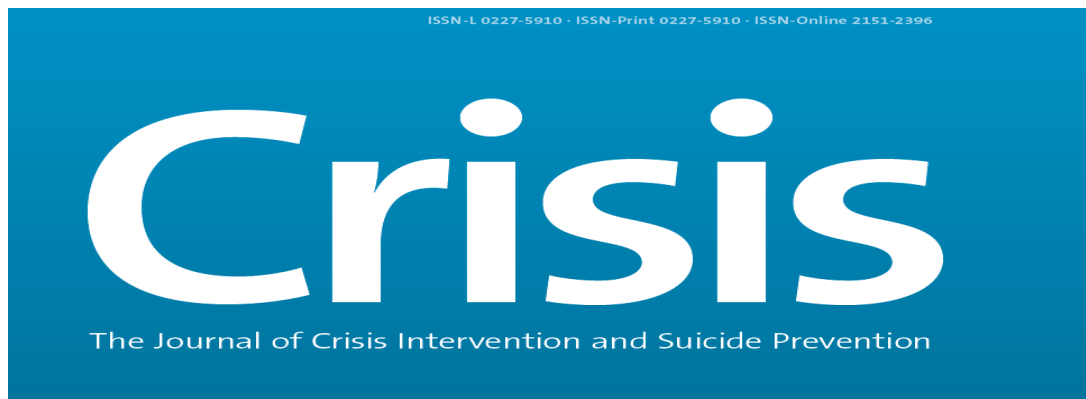
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Assessment and Management of Suicide Risk in Primary Care

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Abstract. *Background:* Risk assessment and management of suicidal patients is emphasized as a key component of care in specialist mental health services, but these issues are relatively unexplored in primary care services. *Aims:* To examine risk assessment and management in primary and secondary care in a clinical sample of individuals who were in contact with mental health services and died by suicide. *Method:* Data collection from clinical proformas, case records, and semistructured face-to-face interviews with general practitioners. *Results:* Primary and secondary care data were available for 198 of the 336 cases (59%). The overall agreement in the rating of risk between services was poor (overall $\kappa = .127$, $p = .10$). Depression, care setting (after discharge), suicidal ideation at last contact, and a history of self-harm were associated with a rating of higher risk. Suicide prevention policies were available in 25% of primary care practices, and 33% of staff received training in suicide risk assessments. *Conclusion:* Risk is difficult to predict, but the variation in risk assessment between professional groups may reflect poor communication. Further research is required to understand this. There appears to be a relative lack of suicide risk assessment training in primary care.

Keywords: suicide, risk assessment, general practitioners, primary care, secondary care

Suicide is a major public health problem internationally and in the UK (World Health Organization, 2012). The majority of individuals are in contact with their general practitioner (GP) prior to suicide (Pearson et al., 2009), particularly those with a mental illness who consult more frequently than other patients (Rodi, Roskar, & Marusic, 2010). People with a mental illness are at increased risk of suicide (Appleby et al., 2012). As such, GPs are well placed to intervene and potentially improve outcome in patients at risk of suicidal behavior.

To date, suicide prevention in primary care has largely focused on training GPs to identify, assess, and manage suicide risk in patients with a primary diagnosis of depression (Department of Health, 2011; McDowell, Lineberry, & Bostwick, 2011; Milton, Ferguson, & Mills, 1999). Risk assessment and management of suicidal patients is emphasized as a key component of care in specialist mental health services, but these issues are relatively unexplored in primary care services. Knowing whether GPs are completing risk assessments, if they are identifying the “right” factors to formulate risk assessments, and whether practice is consistent between GPs and mental health specialists is an important issue. Evidence suggests that different professional groups vary in their risk assessments (Kendall, Taylor, Bhatti, Chan, & Kapur, 2011). For example, one

study found that nonspecialists were more cautious in their risk assessment of patients who had self-harmed than mental health staff were, but no less accurate in predicting repeat episodes (Kapur et al., 2005). Understanding GP procedures for assessing and managing risk in primary care is potentially important for future suicide prevention, but the factors GPs take into account when assessing risk in primary care for patients who go on to die by suicide are relatively unexplored.

The overall aim of the study was to examine risk assessment and management prior to suicide in primary and secondary care in a sample of mental health patients who died by suicide. The specific objectives of this study were to:

1. Compare the level of agreement of risk assessments in primary and secondary care;
2. Investigate the factors associated with high versus low ratings of risk in primary and secondary care;
3. Describe the primary care management including liaison between primary and secondary care for individuals assessed at different levels of risk; and
4. Describe key elements of suicide risk assessment in primary care, including the extent of GP training on risk assessment, and the policies and procedures in place in primary care.

Method

Setting and Participants

This study was carried out in the English National Health Service (NHS). Most of the population is registered with a primary care physician – a GP. Specialist mental health services (generally referred to as mental health trusts) provide care to those seeking treatment. Primary care and specialist treatment, like other services provided by the NHS, is free at the point of use.

The sample for this study included individuals residing in the North West of England who had been in contact with mental health services before death and had died by suicide between January 1, 2003 and June 30, 2007.

Collection of Suicide Data From Mental Health Services

Mental health service data were collected through the National Confidential Inquiry Into Suicide and Homicide, a well-established national clinical study (Appleby et al., 2012; Appleby et al., 2010). Information on all general population suicides and deaths from undetermined external causes is obtained from the Office for National Statistics. Mental health services identify those people in contact with services in the 12 months before death. Clinical data on these patients are then obtained through questionnaires sent to consultant psychiatrists. The questionnaire comprises multiple sections including: demographic information (e.g., age, sex), clinical history (e.g., primary psychiatric diagnosis, history of self-harm), and clinical management (e.g., treatment and compliance with medication, last contact with mental health services). The inquiry, therefore, provides comprehensive information on a UK-wide case series of all suicides by people in contact with mental health services in the year prior to their death. The ascertainment procedures are robust and the response rates high (over 95%). Further details are available in previous publications (Windfuhr et al., 2008).

Collection of Primary Care and Interview Data

Contact details for GPs were obtained from coroner files or administrative departments of NHS Trusts. A retrospective review of primary care medical records (both written and electronic) and, where possible, semistructured interviews were conducted with consenting general practices. A medical records proforma and interview schedules were used to collect data. These were adapted from tools used in previous research (Pearson et al., 2009) and included details of physical and mental health problems reported in all consultations and treatment offered in the year before death (specifically the final consultation), GP views on their concerns for the patient, antecedent factors contributing to death, and factors that could have prevented the death. Information on the mental health treatment a patient

received in the 12 months prior to death was determined by direct inquiry from clinicians and also using evidence from the medical records. Additional interview data were collected on GP training on self-harm, suicidal ideation and suicide risk assessments, and the policies GPs followed for patients at risk of suicide. The researcher and GP had access to the written or electronic medical notes in every interview providing a source of contemporaneous data.

All interviews and most case record reviews took place in the GPs' surgeries, but some records were viewed at Primary Care Trust premises. Interviews were audiorecorded where participating GPs consented to this. Case reviews using the proforma took approximately 1 hr and interviews varied between 20 and 40 min.

Ratings of Risk

For the patients who died by suicide, clinicians in secondary care had estimated the risk at last contact on the inquiry questionnaire as high, moderate, and low or no risk, which we dichotomized for the purposes of the analysis (see next section). Unlike in our previous paper (Pearson et al., 2009) where we looked at immediate risk only, in this study we considered immediate and long-term risk identified by mental health teams. Mental health services rate only a small minority of individuals (approximately 10%) who have died by suicide as being at high immediate risk at last contact (Appleby et al., 2010). Maximizing the time horizon in this study meant that a greater number of potentially high-risk individuals were included. We also thought that these more inclusive criteria were more comparable with the GPs' ratings (that had no time cut-off). In primary care we used the variable recording of whether GPs had been concerned for their patient's safety prior to death as a proxy measure for high risk (with no concern being taken as a marker of low risk). The primary care risk data were obtained through the GP interviews.

Ethical Approval

Ethical approval was granted by the North West Research Ethics Committee (REC reference: 02/8/74) for the inquiry as a whole and individual R&D approvals were obtained from all the relevant Mental Health Trusts included in the study.

Data Analysis

The secondary care assessments of risk were divided into two categories: (1) perceived moderate and high risk (hereafter referred to as high risk) and (2) perceived low or no risk (hereafter referred to as low risk). We took this approach because previous studies have suggested that even those rated as being at moderate risk have a high incidence of adverse outcomes (Kapur et al., 2005). Many of the independent variables in the questionnaire proformas were in

Table 1. Factors associated with ratings of suicide risk in primary care

| Variable | High risk <i>N</i> = 53 (%) | Low risk <i>N</i> = 136 (%) | <i>p</i> (for difference) | <i>OR</i> (95% CI) |
|---|--------------------------------|--------------------------------|------------------------------|-----------------------|
| Demographics | | | | |
| Age | | | | |
| <39 years | 14/53 (27) | 51/136 (38) | .722 | 0.86 (0.38–1.97) |
| 40–53 years | 24/53 (45) | 38/136 (28) | .084 | 1.98 (0.91–4.29) |
| >53 years | 15/53 (28) | 47/136 (35) | base | base |
| Male | 36/53 (68) | 89/136 (65) | .746 | 1.12 (0.57–2.20) |
| Not married | 37/51 (73) | 94/135 (70) | .697 | 1.15 (0.56–2.36) |
| Unemployed/long-term illness | 31/49 (63) | 71/128 (55) | .349 | 1.38 (0.70–2.72) |
| Living alone | 28/53 (53) | 60/136 (44) | .282 | 1.42 (0.75–2.68) |
| Clinical features | | | | |
| Depression | 27/53 (51) | 47/136 (35) | .040* | 1.97 (1.03–3.75) |
| Schizophrenia | 8/53 (15) | 28/136 (21) | .389 | 0.69 (0.29–1.62) |
| Noncompliance with medication | 16/50 (32) | 44/125 (35) | .687 | 0.87 (0.43–1.74) |
| Recent adverse life events | 21/52 (40) | 44/110 (40) | .963 | 1.02 (0.52–1.99) |
| Psychiatric inpatient at time of death | 10/51 (20) | 18/133 (14) | .307 | 1.56 (0.67–3.65) |
| Suicide within 3 months' discharge from inpatient care | 13/44 (30) | 18/125 (14) | .029* | 2.49 (1.11–5.65) |
| Suicidal ideas at last contact in primary care | 24/46 (52) | 6/126 (5) | <.001*** | 21.82 (8.00–59.51) |
| Behavioral features | | | | |
| History of self-harm | 37/53 (70) | 92/130 (71) | .897 | 0.96 (0.48–1.92) |
| Patient consulted a GP in the year prior to death following self-harm | 30/52 (58) | 54/133 (41) | .037* | 2.00 (1.04–3.82) |
| History of violence | 7/51 (14) | 30/133 (23) | .186 | 0.55 (0.22–1.34) |
| History of substance misuse | 33/52 (64) | 72/135 (53) | .212 | 1.52 (0.79–2.93) |

Note. High risk in this table refers to individuals where the GP was concerned for their safety. * $p < .05$. ** $p < .01$. *** $p < .001$.

binary format (presence/absence of factors). For variables providing more than two possible responses, the main factor of interest was selected and the response recoded following a binary format. As some of the responses occurred in only a small number of cases, binary coding provided more reliable estimates of odds ratios (Hawton, Fagg, Platt, & Hawkins, 1993). The independent variables were listed under the broad headings: demographic factors, clinical features, and behavioral features (see Tables 1 and 2).

Primary care and secondary care data were analyzed separately. Descriptive analyses were used to compare the management and treatment of patients in primary care in the year prior to suicide. Both parametric and nonparametric statistical tests were carried out where appropriate. These included the χ^2 test of association, κ statistic, and analysis of variance. When percentages are quoted these refer to "valid cases" (i.e., cases for which the relevant information was available). As a result the denominator varies between items. With respect to the interviews, much of the data were presented as simple frequencies.

We carried out forward stepwise logistic regression using SPSS version 20 to compare the factors associated with primary care and secondary care doctors' ratings

of the perceived risk of suicide. We were looking at the best-fitting data-driven model for these variables. We report the frequencies, odds ratios, their confidence intervals, and p values.

Results

Characteristics of the Sample

Between 2003 and 2007, 336 patient suicides were recorded in the North West of England; approximately 6% of the entire national sample ($n = 5,552$). GP records were reviewed in 291 (87%) cases and semistructured interviews were completed by 198 (59%) consenting GPs. Baseline characteristics of the patients are given in Table 3.

In terms of sex, age, civil status, living circumstances, employment status, and clinical characteristics, no significant differences were noted between the patients for whom GP data were obtained and those for whom they were not ($n = 45$). Reasons for nonparticipation of GPs in interviews

Table 2. Factors associated with ratings of suicide risk in specialist care

| Variable | High risk <i>N</i> = 69 (%) | Low risk <i>N</i> = 101 (%) | <i>p</i> (for difference) | <i>OR</i> (95% CI) |
|---|--------------------------------|--------------------------------|------------------------------|-----------------------|
| Demographics | | | | |
| Age | | | | |
| <39 years | 22/69 (32) | 34/101 (34) | .622 | 1.21 (0.57–2.55) |
| 40–53 years | 22/69 (32) | 35/101 (35) | .568 | 1.24 (0.59–2.62) |
| >53 years | 25/69 (36) | 32/101 (31) | base | base |
| Male | 47/69 (68) | 64/101 (63) | .523 | 1.24 (0.65–2.36) |
| Not married | 49/69 (71) | 71/100 (71) | .998 | 1.00 (0.51–1.97) |
| Unemployed/long-term illness | 43/69 (62) | 56/98 (57) | .503 | 1.24 (0.66–2.33) |
| Living alone | 35/69 (51) | 45/101 (45) | .429 | 1.28 (0.69–2.37) |
| Clinical features | | | | |
| Depression | 31/69 (45) | 37/101 (37) | .279 | 1.41 (0.76–2.63) |
| Schizophrenia | 11/69 (16) | 22/101 (22) | .346 | 0.68 (0.31–1.51) |
| Noncompliance with medication | 27/66 (41) | 26/96 (27) | .067 | 1.86 (0.96–3.63) |
| Recent adverse life events | 29/62 (47) | 28/87 (32) | .072 | 1.85 (0.95–3.63) |
| Psychiatric inpatient at time of death | 14/67 (21) | 11/100 (11) | .083 | 2.14 (0.91–5.05) |
| Suicide within 3 months' discharge from inpatient care | 20/61 (33) | 10/92 (11) | .001*** | 4.00 (1.72–9.33) |
| Suicidal ideas at last contact in primary care | 16/67 (24) | 7/100 (7) | .003** | 4.17 (1.61–10.79) |
| Behavioral features | | | | |
| History of self-harm | 57/67 (85) | 59/99 (60) | .001** | 3.86 (1.77–8.45) |
| Patient consulted a GP in the year prior to death following self-harm | 37/67 (55) | 41/98 (42) | .092 | 1.72 (0.92–3.21) |
| History of violence | 15/67 (22) | 18/101 (18) | .467 | 1.33 (0.62–2.87) |
| History of substance misuse | 44/68 (65) | 52/101 (52) | .090 | 1.73 (0.92–3.25) |

p* < .05. *p* < .01. ****p* < .001.

where medical records were available were: perceived lack of time; GP had retired or left the practice, no other GP knew the patient; or the GP had died.

Reported Risk: Comparison of Primary Care vs. Secondary Care

Of the 198 cases, 162 (82%) patients had both primary and secondary data on risk assessment available. In 73 of 162 patients (45%), both GPs and mental health specialists rated risk at last contact as low, perhaps particularly surprising given that all of the sample had died by suicide. There was overall agreement in the rating of risk between primary and secondary care for 60% of patients and disagreement in 40% (overall $\kappa = .127$, $p = .10$, strength of agreement: poor). High risk was identified more often by secondary care than primary care clinicians (40% vs. 30%). In only 24 cases (15% of the suicide deaths) did both sets of clinicians rate the risk as high.

Factors Associated With Risk Prior to Suicide

Primary Care

Data on GP concerns for safety were available for 189 (95% of 198) cases, of which 53 (27%) reported concerns for patient safety. Table 3 shows the factors associated with GPs ratings of risk (being concerned or not concerned about the safety of their patient). Four variables (depression; post-discharge care setting; suicidal ideation at last contact with primary care; and primary care consultation following self-harm) were individually associated with perceived risk. Stepwise regression was used; however, the final logistic model included only one variable – suicidal ideation at last contact with primary care ($OR = 21.61$, 95% CI = 7.20–64.84, $p < .001$) as an independent risk factor of perceived high risk.

Secondary Care

Data on the reported risk of patients in secondary care were available for a total of 170 cases (86% of 198), of which 69 (41%) were rated as being at high or moderate risk. Table 2 shows the factors associated with an assessment of higher risk

Table 3. Baseline characteristics of the 198 patients who died by suicide and were included in the study

| Variable | <i>n</i> | % |
|--|----------|----|
| Sex (<i>n</i> = 198) | | |
| Male | 130 | 66 |
| Female | 68 | 34 |
| Age, years (<i>n</i> = 198) | | |
| <39 years | 67 | 34 |
| 40–53 years | 66 | 33 |
| >53 years | 65 | 33 |
| Primary diagnosis (<i>n</i> = 193) | | |
| Schizophrenia/other delusional disorders | 37 | 19 |
| Bipolar affective disorder | 15 | 8 |
| Depressive illness and anxiety disorders | 89 | 46 |
| Drug/alcohol dependence | 18 | 9 |
| Personality disorders/adjustment disorders | 25 | 13 |
| Other (e.g., dementia, organic disorders) | 9 | 5 |
| Method of suicide (<i>n</i> = 198) | | |
| Self-poisoning | 64 | 32 |
| Carbon monoxide poisoning | 6 | 3 |
| Hanging | 75 | 38 |
| Drowning | 10 | 5 |
| Jumping (e.g., from height, in front of moving object) | 27 | 14 |
| Other (e.g., firearms cutting, burning, suffocation) | 16 | 8 |
| Clinical characteristics | | |
| History of deliberate self-harm (<i>n</i> = 190) | | |
| Yes | 136 | 72 |
| No | 54 | 28 |
| Subject to enhanced aftercare (<i>n</i> = 193) | | |
| Yes | 79 | 41 |
| No | 114 | 59 |

Note. Figures in brackets are number of valid responses for each variable.

in secondary care. Three variables (postdischarge care setting; having suicidal ideas at last contact with secondary care; and a history of self-harm) were individually associated with perceived risk. The stepwise regression model included all three variables as independent risk factors of perceived high risk: postdischarge care setting, $OR = 3.28$, 95% $CI = 1.29–8.38$, $p = .013$; having suicidal ideas at last contact with secondary care, $OR = 3.43$, 95% $CI = 1.10–10.70$, $p = .034$; and a history of self-harm ($OR = 3.86$, 95% $CI = 1.77–8.45$, $p = .001$).

Treatment

Primary Care

Table 4 examines the association between consultation and treatment in primary care and GPs' ratings of risk. In

terms of the consultation data, 186 (98%) patients consulted in the 12 months prior to their death. Reasons for the final consultation and the type of treatment offered at final consultation were significantly related to GPs' concern for their patient's safety.

Secondary Care

Table 5 examines the association between consultation and treatment in primary care and secondary care ratings of risk for a total of 170 (86%) patients where information on risk was available from secondary care. In terms of the consultation data, 165 (97%) patients consulted in the 12 months prior to their death. There were no significant differences between the groups.

Table 4. Treatment and consultation prior to suicide for patients rated as being at high and low risk in primary care

| Variable | High risk <i>n</i> = 53(%) | Low risk <i>n</i> = 136 (%) | <i>p</i> (for difference) | <i>OR</i> (95% CI) |
|--|-------------------------------|--------------------------------|------------------------------|-----------------------|
| Consulted GP in 12 months prior to death | 52 (98) | 134 (99) | .985 | 0.99 (0.63–1.56) |
| Consulted for | | | | |
| Psychological reasons | 45 (85) | 60 (43) | <.010** | 1.92 (1.17–3.17) |
| Psychological and physical reasons | 5 (9) | 27 (20) | .147 | 0.48 (0.17–1.30) |
| Physical reasons | 1 (2) | 42 (31) | .006** | 0.06 (0.01–0.46) |
| Other | 1 (2) | 5 (4) | .547 | 0.51 (0.06–4.50) |
| How long before death was last consultation | | | | |
| <24 hr | 2 (4) | 3 (2) | .563 | 1.17 (0.28–10.52) |
| <7 days | 13 (25) | 13 (10) | .026* | 2.57 (1.12–5.89) |
| 1–4 weeks | 15 (28) | 38 (28) | .970 | 1.01 (0.51–1.99) |
| 4 weeks to 6 months | 19 (36) | 67 (49) | .300 | 0.73 (0.40–1.33) |
| 6–12 months | 3 (6) | 12 (9) | .505 | 0.21 (0.03–1.69) |
| At last consultation with GP patient received treatment | 41 (77) | 111 (82) | .83 | 0.95 (0.59–1.53) |
| Medication | 14 (26) | 86 (63) | .008** | 0.42 (0.22–0.80) |
| General advice | 4 (8) | 17 (13) | .383 | 0.60 (0.19–1.88) |
| Counseling | 4 (8) | 8 (6) | .694 | 1.28 (0.37–4.44) |
| Referral | 24 (45) | 9 (7) | <.001*** | 6.84 (2.99–15.68) |
| At last consultation with GP patient accepted | | | | |
| Treatment | 29 (55) | 97 (71) | .320 | 0.77 (0.46–1.29) |
| Mental health treatment offered in 12 months prior to suicide | | | | |
| Medication | 48 (91) | 126 (93) | .92 | 0.98 (0.62–1.55) |
| Inpatient | 26 (49) | 48 (35) | .26 | 1.39 (0.78–2.47) |
| Outpatient (psychiatrist) | 35 (66) | 93 (68) | .89 | 0.97 (0.58–1.60) |
| CMHT (CPN, SW) | 30 (57) | 84 (62) | .74 | 0.92 (0.54–1.55) |
| Alcohol or drug services | 8 (15) | 22 (16) | .88 | 0.93 (0.39–2.23) |
| Psychology | 7 (13) | 13 (10) | .51 | 1.38 (0.52–3.65) |
| Counseling | 4 (8) | 8 (6) | .69 | 1.28 (0.37–4.44) |
| Mental health treatment accepted in 12 months prior to suicide | | | | |
| Medication | 40 (75) | 112 (82) | .72 | 0.92 (0.57–1.48) |

Note. High risk in this table refers to individuals where the GP was concerned for their safety. CMHT = Community Mental Health Teams. CPN = Community Psychiatric Nurses. SW = Social Workers.

p* = <.05. *p* = <.01. ****p* = <.001.

Policies, Procedures, and Training in the Primary Care Setting

Only one in four practices had written policies to follow regarding suicide or self-harm (Table 6) and one in five practices was unable to provide any specific information about what policies they followed. A third of the practices had training in place on suicide awareness and self-harm and on risk assessment for suicide. Training was not available to all staff in the practice and tended to be restricted to GPs. A quarter of the GPs had received training on only one occasion during their practicing years, a third received

ad hoc training, and a fifth could not report any information about their training.

Discussion

Main Findings

This study is the first to our knowledge to compare assessments of risk and characteristics of patients treated by both primary and secondary care in the year prior to suicide.

Table 5. Treatment and consultation data prior to suicide for patients rated as being at high and low risk in specialist care

| Variable | High risk <i>n</i> = 69(%) | Low risk <i>n</i> = 101 (%) | <i>p</i> (for difference) | <i>OR</i> (95% CI) |
|--|-------------------------------|--------------------------------|------------------------------|-----------------------|
| Consulted GP in 12 months prior to death | 67 (97) | 98 (97) | .997 | 1.00 (0.65–1.55) |
| Consulted for | | | | |
| Psychological reasons | 44 (64) | 45 (45) | .173 | 1.43 (0.85–2.40) |
| Psychological and physical reasons | 9 (13) | 21 (21) | .276 | 0.63 (0.27–1.45) |
| Physical reasons | 12 (17) | 27 (27) | .259 | 0.65 (0.31–1.37) |
| Other | 2 (3) | 5 (5) | .529 | 0.59 (0.11–3.10) |
| How long before death was last consultation | | | | |
| <24 hr | 4 (6) | 2 (2) | .222 | 2.93 (0.52–16.42) |
| <7 days | 8 (12) | 15 (15) | .594 | 0.78 (0.31–1.94) |
| 1–4 weeks | 25 (33) | 24 (24) | .195 | 1.52 (0.81–2.89) |
| 4 weeks to 6 months | 26 (38) | 49 (49) | .381 | 0.78 (0.44–1.37) |
| 6–12 months | 7 (10) | 8 (8) | .647 | 1.28 (0.44–3.70) |
| At last consultation with GP patient received treatment | | | | |
| Medication | 53 (77) | 81 (80) | .855 | 0.96 (0.60–1.52) |
| General advice | 38 (55) | 47 (47) | .530 | 1.18 (0.70–2.00) |
| Counseling | 5 (7) | 14 (14) | .233 | 0.52 (0.18–1.52) |
| Referral | 5 (7) | 7 (7) | .941 | 1.05 (0.32–3.43) |
| Referral | 11 (16) | 20 (20) | .594 | 0.81 (0.36–1.79) |
| At last consultation with GP patient accepted | | | | |
| Treatment | 41 (59) | 70 (69) | .540 | 0.86 (0.52–1.40) |
| Mental health treatment offered in 12 months prior to suicide | | | | |
| Medication | 60 (87) | 94 (93) | .765 | 0.93 (0.60–1.46) |
| Inpatient | 31 (45) | 37 (37) | .481 | 1.23 (0.70–2.16) |
| Outpatient (psychiatrist) | 37 (54) | 78 (77) | .150 | 0.69 (0.42–1.14) |
| CMHT (CPN, SW) | 40 (58) | 69 (68) | .516 | 0.85 (0.52–1.39) |
| Alcohol or drug services | 13 (19) | 17 (17) | .778 | 1.12 (0.51–2.45) |
| Psychology | 10 (14) | 8 (8) | .226 | 1.83 (0.69–4.87) |
| Counseling | 5 (7) | 4 (4) | .380 | 1.82 (0.47–7.06) |
| Mental health treatment accepted in 12 months prior to suicide | | | | |
| Medication | 51 (74) | 82 (81) | .692 | 0.91 (0.57–1.45) |

Note. CMHT = Community Mental Health Teams. CPN = Community Psychiatric Nurses. SW = Social Workers.

p* < .05. *p* < .01. ****p* < .001.

Many patients had been rated as being at low risk of suicide prior to death. The level of agreement with respect to risk assessment in primary and secondary care was poor. In primary care, factors such as depression, care setting (postdischarge), suicidal ideation at last contact with primary care, and primary care consultation following self-harm were associated with GPs being concerned about their patient. Those whom the GPs were concerned about were more likely to have consulted for psychological reasons and were more likely to have been referred to specialist services. In secondary care, factors such as care setting (postdischarge), having suicidal ideas at last contact with secondary care, and a history of self-harm were associated with a rating of

high or moderate risk. There were few policies in primary care to guide practice and there was a discernible lack of training on suicidal behavior and risk. We think these findings are of interest to those who plan and provide services and make a strong case for better and more integrated assessment and management of suicide risk.

Methodological Considerations

Our findings should be interpreted in the context of a number of methodological limitations. Both primary and secondary care clinicians were contacted after death. This may

Table 6. Policies, procedures, and training in primary care for suicide prevention

| | Yes <i>n</i> (%) | No <i>n</i> (%) | n/k <i>n</i> (%) |
|---|---------------------|--------------------|---------------------|
| Does this practice follow written policies/protocols regarding suicidal behavior? | 49 (25) | 136 (71) | 8 (4) |
| Policies and procedures used in primary care | | | |
| Local (Primary Care Trust) guidelines | 11 (22) | | |
| National (NICE) guidelines | 5 (10) | | |
| Use standard measures to monitor patients | 1 (2) | | |
| Specific mental health protocols | 18 (36) | | |
| Use national quality framework (QOF) | 4 (8) | | |
| Not specified | 11 (22) | | |
| Do the staff at this practice receive training on self-harm or suicide awareness? | 67 (35) | 123 (64) | 2 (1) |
| Is this training available to all staff? | 28 (42) | 38 (58) | |
| How often do staff receive training? | | | |
| Once | 16 (24) | | |
| Yearly | 5 (8) | | |
| Quarterly | 7 (10) | | |
| Ad hoc local training | 27 (40) | | |
| Other/not known | 12 (18) | | |
| Do the staff at this practice receive training on risk assessment for suicide? | 64 (33) | 124 (65) | 4 (2) |
| Is this training available to all staff? | 24 (38) | 40 (62) | |
| How often do staff receive training? | | | |
| Once | 15 (26) | | |
| Yearly | 3 (5) | | |
| Quarterly | 7 (12) | | |
| Ad hoc in local meetings | 18 (31) | | |
| Other/not known | 15 (26) | | |

Note. n/k = not known. NICE = National Institute for Health and Care Excellence. QOF = Quality and Outcomes Framework.

have resulted in recall bias. However, our main aim was to compare specialist and primary care risk assessments and understand the possible reasons for the rating of low risk in patients who went on to die by suicide. This could only be done with a clinical sample of people who were in contact with both mental health and primary care services. A prospective study would not have been feasible. In addition, the researcher and GP had access to the written or electronic medical notes in every interview and were therefore using data that were collected contemporaneously at the time the patient consulted with their GP in order to inform their responses. While the retrospective assessment of risk has its potential weaknesses, it is a well-established methodology, used for example in the UK's National Confidential Inquiry Into Suicide for a number of years. Previous studies have identified variations in accuracy or the amount of detail provided in case records; however, one

study comparing GP records and patient self-report questionnaires found similar figures for the mean number of consultations in both sources (Mistry, Buxton, Longworth, Chatwin, & Peveler, 2005). A systematic review into the quality of computerized medical records found that the recording of consultations on such systems tended to be good (Jordan, Porcheret, & Croft, 2004). In addition, our primary care data were supplemented by interviews with GPs and our secondary care data were collected directly from the clinicians caring for the patients by means of a dedicated proforma.

It is also possible that some clinicians may have been concerned about their own assessment of suicidal risk and this may have introduced some bias (e.g., with a tendency for some clinicians to perhaps downgrade the estimated level of risk when the patient was last seen). The emotional aspect of suicide and the personal role of the GP in (not

preventing the attempt could have contributed to a possible “defensive reporting” of the signals that were missed or wrongly interpreted. In addition it should be borne in mind that risk is dynamic – it changes over time. Some of the differences between primary and specialist services’ views of risk might be because the risk assessments were carried out at different times. Equally some of the discrepancies between primary and secondary care ratings of risk could have been due to the slightly different nature of what clinicians were asked – in primary care it was about concerns about the patient’s safety.

The sample consisted of people in current, or recent, contact with mental health services from the North West of England and there was no comparison group of those who did not die by suicide, nor of individuals who died by suicide and did not have contact with mental health services. Our risk recognition findings might in some senses represent a best-case scenario, as ours was a clinical sample of patients in contact with services at the time of death. The recognition of risk is likely to have been lower in those not in contact with primary care or mental health services. In this context, we think our findings on the large number of individuals rated as being at low risk prior to death are even more striking.

Our findings may not be representative of the rest of the UK although many of the issues we identified are likely to apply across services. It should also be noted that some of our data are now several years old. As a consequence, some of the study findings might not necessarily reflect current clinical practice.

Clinical and Research Implications

The assessment of suicide risk is clearly difficult. Part of the challenge is the poor predictive value of assessments and scales, which means that many individuals rated as high risk will not go on to have adverse outcomes (i.e., false positive on the basis of risk assessment; Kapur, 2000; Morriss, Kapur, & Byng, 2013). In this study we focused on the complimentary issue of false negatives. Similar to previous studies we found that many patients who died by suicide (nearly half the sample) had in fact been rated as being at low risk when they were last seen by their clinicians (Alexopoulos et al., 2009). This “low risk” paradox in patients who go on to die by suicide reflects the problems inherent in predicting low-frequency events, but rapidly changing risk, desensitization to high-risk situations (particularly in specialist care), and recall bias might also contribute (Alexopoulos et al., 2009). In primary care, presentation with physical complaints could mask psychological symptoms and lead to a downgrading of risk.

In this study we also found that there were potentially important differences in the risk assigned to patients in primary and secondary care prior to their death. Poor communication between care settings could account for these findings. Previous studies have highlighted poor communication and sharing of information between general and mental health services (Malone, Szanto, Corbitt, & Mann, 1995). Strengthening communication and liaison links be-

tween care services could lessen discrepancies and contribute to suicide prevention. The rapid improvement of information technology may facilitate both the collection and communication of risk information (Stein, 2002). Systems could flag patients at risk, indicate who is responsible for follow-up care, and may be updated regularly, including for patients who do not attend appointments. Further research to investigate and understand the variation in risk assessment among health professionals may also help to improve practice.

Our data suggest that clinicians do take into account a number of important factors when assessing risk. Comprehensive risk assessments that take into account a wide range of demographic and clinical factors (e.g., employment, living circumstances, age, gender, history of self-harm or substance misuse, physical health) are an important suicide prevention measure (Pearson et al., 2009). Patients who express suicidal ideation at their last consultation but who are rated as low risk (six patients in primary care and seven patients in secondary care in this study) may be an important group in whom to intervene.

We found a comparative lack of training for suicide risk assessment in primary care. This is consistent with previous studies (Gilbert, Adams, & Buckingham, 2011; Morriss et al., 2013). It is clear from guidelines (National Institute for Health and Clinical Excellence, 2011) and existing research that the evidence to guide the content and format of suicide risk assessment training is lacking. The use of screening or case finding instruments, for example, the Columbia-Suicide Severity Risk Scale (C-SSRS) that can be used by gatekeepers with minimal training may be a promising avenue to explore further (Posner et al., 2011). Of course, there is the caveat that it will always be extremely difficult to predict low-incidence events like suicide.

Conclusion

Risk is difficult to predict, but the variation in risk assessment between professional groups may reflect poor communication. There appears to be a relative lack of suicide risk assessment training in primary care. Further research into the assessment and management of suicidal behavior in primary care has the potential to contribute significantly to evidence-based suicide prevention.

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Authors' contributions: The study was principally designed by PS, KW, and NK but all authors had input into aspects of study design. Ethical approval was obtained by PS and KW. Data collection was carried out primarily by PS, supported by NS and KW. Initial data manipulation was carried out by PS, supervised by DW. Data analysis was carried out by PS and supervised by DW and NK. Clinical input was provided by NK. The manuscript was prepared by PS with supervision from NK, KC, and KW. All authors commented on drafts of the paper and contributed to the final version.

Conflict of Interest: NK was Chair of the Guideline Development Group for the National Institute for Clinical Excellence (NICE) guidelines for the longer-term management of self-harm and sits on the Department of Health's National Suicide Prevention Strategy Advisory Group.

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4.3 Paper 3: Saini P, While D, Chantler K, Kapur N. (to be submitted) Non-adherence to treatment in primary care prior to suicide: a mixed methods study.

4.3.1 Abstract

Background

Individuals who do not adhere to their treatment regimens, including medication and therapy, may be at greater risk of suicide than individuals who adhere to treatment but these issues are relatively unexplored in primary care services.

Aim

To examine primary care consultation data for a clinical sample of patients who were non-adherent to treatment regimens in the year prior to suicide.

Method

A mixed-methods study including data from primary care medical notes on 251 patients and 96 semi-structured face-to-face interviews with general practitioners (GP).

Results

Non-adherence to treatment was reported for 109/251 (43%) patients in primary care medical records. All of the patients consulted with a GP in the year prior to death. Of these, 82% had 3 or more consultations. 48% of patients consulted in the month prior to death, 71% consulted for psychological reasons and 54% accepted the treatment offered to them at their final consultation. GPs were interviewed for 96/109 (88%) patients reported to be non-adherent to treatment prior to suicide. The following themes emerged from GP interviews: (i) *Lack of insight or denial* (about their illness); (ii) *Between a rock and a hard place* (reported side effects); (iii) *One service does not fit all* (multiple psychiatric diagnoses).

Conclusion

Non-adherence to treatment regimens may be difficult to manage in primary care. For suicide prevention, it is crucial for health professionals to assess patients and manage the possible causes of non-adherence. Whilst many of the issues are not specific to suicide, they may have specific meanings in relation to suicide prevention. Policies for increasing treatment adherence or providing alternative treatments to meet individual patient needs may help to achieve the best health outcomes and could potentially prevent suicide.

Keywords: suicide, non-adherence, primary care, secondary care, mental health.

4.3.2 Introduction

According to the World Health Organisation (WHO), suicide is the second most common cause of death in the world (WHO, 2012). Suicide is also a leading cause of death in the United Kingdom accounting for approximately 5000 deaths annually (NCI, 2014).

Approximately one-quarter of individuals who have died by suicide have been in contact with mental health services prior to death but many more will have been in contact with primary care (NCISH, 2014; Pearson *et al*, 2009). Research on suicide prevention in primary care is sparse especially within the UK (Pearson *et al*, 2009; Saini *et al*, 2010; Mann *et al*, 2005; Bajaj *et al*, 2008; Bryan *et al*, 2009; Saini *et al*, 2014; Saini *et al*, 2015; Schulberg *et al*, 2004). The role of health professionals in suicide prevention is well-recognised, and the management of suicidal patients by GPs has become an important component of approaches to suicide prevention (DH 2012).

Previous studies have consistently found that the majority of people who die by suicide—perhaps 90% or more—may have a diagnosable mental disorder at the time of their death and many will have been in contact with their GP prior to suicide (Cavanagh *et al*, 2003). While nearly all mental disorders have the potential to increase the risk for suicide, studies show that the most common disorders among people who die by suicide are major depression and other mood disorders, substance misuse, schizophrenia and personality disorders (NCI, 2014; NCISH, 2014; Pearson *et al*, 2009; Hawton *et al*, 2005; Goff *et al*, 2010; Tacchi and Scott, 2005; Novick *et al*, 2010; Higashi *et al*, 2013; Bentall 2009; Dowrick and Frances, 2013; Gold 2009). Within primary care, there is evidence to suggest that particular measures may contribute to suicide prevention (NCISH, 2014; Pearson *et al*, 2009; Saini *et al*, 2010; Saini *et al*, 2015). For example, suicides may be reduced if primary care providers and their staff are trained to recognise and treat (or refer for specialty care) patients who show signs of the

mental disorders that are most commonly associated with suicide (Saini *et al*, 2010; Saini *et al*, 2015).

Non adherence to treatment (defined as a failure to take medication as prescribed or to attend follow-up appointments) is a potentially important issue in suicide prevention. Non-adherence to psychotropic medication may be higher than that for treatment of some physical illnesses. This could be related to issues around societal stigma or alternatively may be due to unpleasant drug side effects, which typically start before the therapeutic benefit (Novick *et al*, 2010). Research shows that medication non-adherence may also be linked with diminished cognitive capacity. One study reported that patients with poor pre-morbid cognitive capacity were more likely to stop taking anti-psychotics within the first year of their illness than other patients (Higashi *et al*, 2013). In terms of outcomes, antipsychotic medication improved overall functioning, as well as individual symptoms (Higashi *et al*, 2013). However, the emphasis placed on the biomedical model for the treatment of people with a psychiatric diagnosis with antipsychotic medication has been questioned (Bentall 2009; Dowrick and Frances, 2013). Medical labels can have a negative impact on some individuals and may influence their decision to not adhere to medication or attend appointments with mental health professionals. The biomedical model suggests that diagnoses help in providing services to patients who have a psychiatric diagnosis, that symptom reduction should be the major goal of psychiatric treatment and that there is a clear boundary between severe psychiatric illnesses and normality. Some proponents of the model may even contend that psychological and social treatment is secondary treatment for people with severe mental illness (Gold 2009). Post-psychiatrists recommend that psychological methods should take precedence over biological ones for the treatment of psychotic people and that psychiatric diagnoses are no more than labels (Bentall 2009; Dowrick and Frances, 2013).

There is limited research on non-adherence to treatment and completed suicide (NCI 2014). Studies have investigated interventions that may increase patient adherence to treatment and thus improve patient health outcomes (Hong *et al*, 2011; Åkerblad *et al*, 2008; Aldridge 2011). However, research has been largely limited to secondary care settings and has in many cases been focussed on those with schizophrenia or bipolar disorder (Hawton *et al*, 2005; Goff *et al*, 2010; Tacchi and Scott, 2005; Novick *et al*, 2010; Higashi *et al*, 2013; Hong *et al*, 2011). To our knowledge, no studies have investigated non-adherence to treatment prior to suicide within primary care. This area might benefit from further exploration.

There is a significant gap in mixed methods suicide research in primary care. A mixed methods approach offers an opportunity for generating new ways of understanding the complexities and contexts of non-adherence to treatment in patients who have died by suicide from a GPs perspective. Such an approach involving retrospective reviews of primary care medical records and GPs interviews can draw on and extend some of the best principles of qualitative enquiry and quantitative data collection. This method will provide important information for suicide prevention policies. The overall aim of this study was to examine patient non-adherence to treatment, contact, engagement and management in primary care in a clinical sample of patients who were in contact with mental health services in the year prior to suicide.

The specific objectives were to:

- 1) describe the characteristics of patients who were non-adherent to treatment;

- 2) describe the number of consultations and treatment data within primary care for patients who were non-adherent to treatment;
- 3) obtain GPs' views and perspectives on the reasons why patients were non-adherent to treatment prior to suicide and strategies for managing them.

4.3.3 Method

4.3.3.1 Setting and participants

This study was carried out in the English National Health Service (NHS). Most of the population is registered with a primary care physician – a general practitioner or ‘GP’. Specialist mental health services (generally referred to as ‘mental health trusts’) provide second tier care to those seeking treatment. Primary care and specialist treatment, like other services provided by the National Health Service, is free at the point of use.

The sample for this study included individuals residing in the North West of England who had been in contact with mental health services before death and had died by suicide between 1st January 2003 and 30th June 2007. The sample was obtained from The National Confidential Inquiry database (The Inquiry).

4.3.3.2 Collection of suicide data from mental health services

Information on all general population suicides and deaths from undetermined external causes is obtained from the ONS. Mental health services identify those people in contact with services in the 12 months before death. Clinical data on these patients is then obtained through questionnaires sent to consultant psychiatrists. The questionnaire comprises multiple sections including: demographic information (e.g., age, gender, ethnicity), clinical history (e.g., primary psychiatric diagnosis; history of self-harm), and clinical management (e.g.,

treatment and compliance with medication; last contact with mental health services). The Inquiry, therefore, provides comprehensive information on a UK-wide case series of all suicides by people in mental health service contact in the year prior to death. The ascertainment procedures are robust and the response rates high (over 95%). Further details are available in previous publications (Windfuhr *et al*, 2008).

4.3.3.3 Collection of primary care and interview data

Each patient's named GP was contacted by letter to participate in the study. GP information was obtained from administrative departments of NHS Trusts or coroner files. 198 interviews took place in the GP surgeries and were recorded with permission and then transcribed verbatim. Where GPs were unavailable, practices were contacted to nominate a suitable alternative GP that had treated the patient in the year prior to death. All interviewees were sent a participant information sheet and indicated their willingness to participate by completing a consent form.

A medical records proforma and interview schedules were used to collect data. These were adapted from tools used in previous research (Pearson *et al*, 2009; Saini *et al*, 2010; Saini *et al*, 2014; Saini *et al*, 2015) and included details of physical and mental health problems reported in all consultations and treatment offered in the year before death (specifically the final consultation), GP views on their concerns for patient safety, antecedent factors contributing to death, and factors which could have prevented the death. Information on the mental health treatment a patient received in the 12 months prior to death was determined by direct inquiry from clinicians and also using evidence in the medical records. The researcher and GP had access to the written or electronic medical notes in every interview providing a source of contemporaneous data.

All interviews and most case record reviews took place in the GPs' surgeries, but some records were viewed at Primary Care Trust premises. Interviews were audio-recorded where participating GPs consented to this. Case reviews using the proforma took approximately one hour and interviews varied between 20-40 minutes.

4.3.3.4 Non-adherence to treatment

GPs in primary care rated whether patients were non-adherent to treatment (this included not attending health appointments, not taking prescribed medication or having more medication than the recommended dosage), and where applicable, reported the reason for non-adherence. These data were retrieved from the patient's consultation records and/or GP interviews.

4.3.3.5 Ethical approval

Ethical approval was granted by the North-west Research Ethics Committee (REC reference: 02/8/74) for the Inquiry as a whole. Individual R&D approvals were also obtained from all the relevant Mental Health Trusts included in the study.

4.3.4 Data analysis

4.3.4.1 Descriptive statistics

The primary care assessments of adherence to treatment were dichotomised into either: 1) adherent or 2) non-adherent. For multiple response variables (e.g. employment status, relationship status, etc), the main factor of interest was selected and the response coded as a binary variable. This was because some of the responses occurred in only a small number of cases. Diagnosis was not treated as a mutually exclusive variable - we allowed for overlapping diagnoses in order to take into account primary, secondary and tertiary diagnosis.

Depression and anxiety were grouped together for the analysis. We carried out descriptive analysis using SPSS version 20 (SPSS 2011). When percentages are quoted these refer to ‘valid cases’, i.e. cases for which the relevant information was available. As a result the denominator varies between items. With respect to the interviews, some of the data were presented as frequencies and percentages. The independent variables were listed under the broad headings: demographic factors, clinical features and behavioural features and treatment (see Tables 2).

4.3.4.2 Qualitative analysis

Thematic analysis was used to analyse GP interview transcripts (Braun and Clarke, 2006). Thematic analysis was selected as an appropriate method for examining the interview data because it provides a way of getting close to the data and developing a deeper appreciation of the content. The analysis was conducted by the primary researcher (PS), and by the secondary researcher (KC) who supervised PS. The main themes and codes of interest were determined by using the steps recommended by Braun and Clarke (2006): listening to interview recordings and reading each transcript several times to establish familiarity with the whole interview and generating descriptive codes to represent the main themes. The initial codes of interest were generated systematically across the entire data set and were then grouped into a set of emerging themes. Ongoing analysis refined the specifics and formulated the conceptual name of each theme. The final part of the analysis was the selection of the interview extracts, relating the analysis to the research question and literature. The process of refinement and validation of findings was conducted through a collaborative exercise creating iterative feedback loops. Transcripts were examined for one group of the data set where patients were reported to be non-adherent to treatment by GPs. The data were interpreted and reanalysed within the thematic framework to interpret and structure the component statements.

4.3.5 Results

4.3.5.1 Characteristics of the sample

Between January 2003 and June 2007, 336 patient suicides were recorded in the North West of England; approximately 6% of the entire national sample of patient suicides ($n=5,552$). Of the 336 potential participants, medical records were reviewed for 291 (87%) patient cases. Reasons for non-participation of practices where medical records were available were: lack of time to retrieve notes; GP had retired or left the practice, no other GP knew the patient or the GP had died. In terms of gender, age, marital status, living circumstances, employment status, and clinical characteristics no significant differences were noted between the patients for whom GP data were obtained and those for whom it was not ($n = 45$). Of the 291 cases, 251 (86%) patients had data on adherence to treatment available from primary care medical records and/or GP interviews - 142 were adherent and 109 were non-adherent to treatment (see figure 6).

Of the 336 GPs who were invited to participate in the study, 198 (59%) consented to be interviewed and 135 did not participate due to being retired, lack of time, having left the practice or they had died and three GPs changed their minds about participating at the time of the interviews. Semi-structured face-to-face interviews were conducted with GPs between January 2005 and October 2009 and lasted between 20 and 40 minutes. Of the GPs, 54 were female and 144 were male. The length of time since qualifying ranged from 8 to 40 years, with an average of 23 years.

4.3.5.2 Descriptive analysis of non-adherence data

Non-adherence to treatment was reported for 109 patients. Table 4 describes the characteristics, contact and treatment in primary care for patients who were non-adherent

with treatment prior to suicide. All of the patients consulted with a GP in the year prior to death, of which, 82% had 3 or more consultations and 48% consulted in the month prior to death. At the patients' final consultations, 71% were seen for psychological reasons and 54% accepted the treatment offered to them by GPs. Dual diagnosis for patients with both substance misuse and mental health problems was reported for 61% of patients and 80% of patients had two or more mental health diagnoses (see graphs 1 and 2). A high proportion of patients who were non-adherent to treatment had a history of self-harm (74%) and serious suicide attempts (24%).

4.3.5.3 Qualitative analysis of GP interviews

Prior to identifying the themes for the qualitative interview material, we provide some background information about the data. GP interview data were obtained for 96 (88%) of the 109 patients who were non-adherent to medication. GPs' views were obtained for all of the patients' treatment for mental and physical health problems. GPs reported that 95 (99 %) patients received additional specialist mental health care in the year prior to their death. GPs were involved in urgent referrals or emergency admissions for 15 (16 %) patients at their final consultation and GPs encouraged patients to adhere to medication or attend mental health appointments in 15 (16 %) cases. GPs reported the most common reasons for patient non-adherence to treatment was comorbidity - many patients had more than one reason (see Graph 2). Less frequent reasons for non-adherence were: stigma of taking medication; not believing they had a psychiatric illness; the belief that the medication was not working; feeling better; having more than the prescribed dosage; encouragement by others to not take "mind-controlling" substances; wanting to get pregnant; not being able to drive or simply running out of medication.

Following the thematic analysis process, three inter-related themes were conceptualised as reflecting the corpus of this material. The themes illustrate the reasons GPs reported for non-adherence to treatment prior to patient suicide. The first theme related to what GPs perceived as their patients lack of insight into their psychiatric illness and was conceptualised as ‘*Lack of insight or denial?*’. The second theme ‘*Between a rock and a hard place*’ related to GPs’ understanding of patient treatment choices with regards to medication, which include living with the side effects of medication or living without any treatment due to the lack of alternative treatment options. The third theme identified was ‘*One size does not fit all*’ and related to treatment availability (or lack of availability) for suicidal patients with dual diagnosis or comorbid disorders and the lack of support for GPs. Each of these themes is developed below.

4.3.5.3i Lack of insight or denial?

There is growing evidence that a lack of insight may be an important reason why individuals with severe psychiatric disorders do not take medication for their illness (Rickleman 2004; Schwartz 1998);

“She was not compliant with medication and had poor insight in her last episode before her death...the community mental health team were involved in following her up and trying to make sure she was taking her medication but she just deteriorated...she did try medication but eventually was sectioned into hospital just before her suicide...she [the patient] had frustration about her illness and a lack of insight” (GP50).

Evaluating insight is crucial for GPs who may be making a psychiatric diagnosis and for assessing potential adherence to treatment. A patient’s lack of insight or denial of psychiatric symptoms is one of the more troubling symptoms as it can [prevent a person from getting the help they need](#). Previous studies suggest that one method of handling this is to rely on a

“doctor knows best” approach and simply to medicate or hospitalise patients [without consent](#) (Davies *et al*, 2010). However, another approach recommended by Chao and Kawasaki (2007; cited in Amador 2010) relies on listening to the patient, empathising with the patient, agreeing with the patient and partnering with the patient (this approach is signified as LEAP). This method ensures that GPs would use the patient’s own framework to build rapport and communicate with them.

In the following illustration, the patient was listened to by the GP and mental health services and offered voluntary admission to hospital as this was the treatment the patient requested and health professionals agreed with. However, the patient opted not to be admitted for his illness and regularly missed follow-up appointments;

“He said that he took all his medications and wanted to be admitted [to hospital]. He called an ambulance the night before but then refused to go. He often DNA appointments and abused meds[medication], taking too many. He had a long history of depression, anxiety, self-harm, alcoholism and self-neglect. He had frequent hospital admissions and often self-discharge or DNA follow up appointments” (GP214)

In this case the GP questioned whether the patient should have been detained under the mental health act without consent and if an opportunity for suicide prevention may have been missed. Sometimes this may be the only approach that works for GPs and mental health professionals and the most appropriate. GPs reported that some patients may be affected by the stigma associated with psychiatric illness, particularly hospitalisation and this may have been a reason for refusing voluntary admission. Others may refuse admission or discharge themselves due their dependency on drugs and/or alcohol which they cannot consume whilst admitted in hospital.

In this study, GPs reported that 8 (7 %) patients (who had at least one psychiatric diagnosis) were convinced they did not need psychotropic medication for their illness or that they had other major physical illnesses (e.g. cancer, aids), although clinical tests proved otherwise;

“Patient was convinced they had a physical health problem and would not believe it was his mental health and so did not comply with medication” (GP77).

Although GPs listened to patient worries about their illness and dealt with them in a thorough manner, patients who usually had one or more psychiatric diagnoses were often difficult to treat and were reported as being in denial about their psychiatric illness;

“Did not believe he was mentally ill so did not comply with meds” (GP201) (this patient had two serious suicide attempts in the weeks leading up to his death and died when he was on agreed leave).

Interestingly, 10 (63%) of the patients who were reported as displaying a lack of insight into their illness had a history of suicidal ideation and/or a history of one or more severe suicide attempt(s).

To establish the underlying reasons for patients’ worry and fear about their health, GPs may have benefited from referring patients for psychotherapy. However, medical discourses are apparent in these accounts with the use of labels such as ‘lacking insight’. Some patients may lack insight sometimes because of impaired cognitive functioning, but others may have a different problem formulation from the one offered by their GP. ‘Lacking insight’ can be a problematic label as it plays into the hierarchical power relations between GPs and patients. In many cases, patients may not be lacking insight or in denial - they may simply have been intolerant to the side effects of the medications offered, wanting alternative treatment choices or their health might have been affected by stressful life events and/or social issues. These issues may be out of the GPs control and additional support may be required by other

resources, such as community-based mental health teams, social services or voluntary sector agencies.

4.3.5.3ii Between a rock and a hard place

For some patients, several months or years of treatment of psychotherapy or medication are necessary. For instance, the recommended treatment time for the first episode of depression is six to 12 months, but almost half of patients stop taking their antidepressant within three months for various reasons (Grenard *et al*, 2011; NICE 2004). For example, metabolic side effects of psychotropic medications, particularly for schizophrenia and bipolar disorder, may contribute to heart disease and strokes and this along with more immediate effects such as weight gain may affect some patients' decision for not wanting to take long-term medications (Hert *et al*, 2011). In this study, GPs reported that 30% of patients stopped taking medications due to side effects that sometimes had a major impact on quality of life such as weight gain or feeling sluggish. GPs spoke of their patients' worry about not being able to drive, having to stop drinking alcohol, reduction in fertility and/or sex drive;

“She did not take medication because she wanted to get pregnant and she thought she couldn't whilst she was on that medication” (GP101). Others refused medication and/or treatment as it would impact on their working life;

“Medication would have affected his ability to work as a pilot so he didn't want any. I felt he should not have been let out of hospital after being admitted and he rejected his medication due to work” (GP237).

Patients' were encouraged to take their prescribed medication by GPs when they discontinued or disclosed discontinuing and on many occasions GPs reported that patients were discharged from psychiatric services too soon. However, it seemed that with some patients, medication or inpatient treatment was unhelpful psychologically and encouraging

patients was clearly not the right strategy as this was not going to eradicate the medication's side effects or stigma associated with being hospitalised.

Enhancing medication adherence (or preventing non-adherence) is an important treatment goal for GPs. GP recognition and prevention of factors that could lead to patient non-adherence is vital, as well as having alternative treatment options to medication for some patients. However, many GPs reported the difficulties they faced when managing patients who were non-adherent to treatment prior to suicide. GPs aimed to provide alternative options when patients communicated that a treatment was not working for them but these were not always accessible;

“She had asked to see a psychologist and had a history of sexual abuse from her step-brother. She had a chaotic lifestyle and was a drug user and did not take her medications. I felt that she needed to be seen by a psychologist but they sent the referral back.” (GP185).

Another example where treatment was inaccessible;

“Should have been possible in this case to put [the]deceased in hospital or a therapeutic community as she requested but services in this area are poor particularly for those who need counselling. When GPs refer people who are suicidal to hospital they inevitably end up back in community so I have no faith in the service. There is no value placed on GPs' opinion by psychiatry and no resources available. Needed counselling but psychology referral for this patient was refused. Her medication was just helping her get by” (GP210).

GPs reported their frustration of not being able to meet individual patient's needs when they were requesting treatments that should be available to patients and that the GP felt were necessary. GPs suggested that offering evidence based psychosocial management interventions was more appropriate for some patients, particularly those who had been abused

or perpetrators of abuse (a proportion of patients in this study were abused as children-8% and/or were perpetrators of abuse-10%). However, GPs reported a lack of access to alternative treatment options, such as psychotherapy, thus limiting what GPs could offer and this impacted on patient choice.

A conflict is evident between shared decision-making and responsibility between care services and this is further complicated by patient autonomy. Two separate GPs from different areas reported that their individual patients asked to be voluntarily detained under the mental health act at their local emergency departments because they were feeling suicidal and would kill themselves if they were not admitted – both were discharged following their assessment;

“Frequently attended A&E seeking admission and requesting psychiatric help. On the day of his death he was admitted but later discharged and earlier he had made repeated statements about suicide but it was hard to know if he meant it or not [read by GP from hospital letter]. Later that day he jumped off the bridge onto the motorway near the hospital” (GP133);

“Deceased went to A&E and asked to be admitted but was refused. Set self on fire outside A&E but I thought that he should have been treated quickly” (GP188).

Both GPs were unaware that their patients were refused admission by mental health staff who thought they would not carry out the threat of suicide. In these instances rather than the stigma of being sectioned, for these patients A&E appeared to represent a last glimmer of hope and a place of sanctuary. GPs commented that these suicides may have been prevented at these final contacts as there was a clear opportunity to intervene and provide treatment for these vulnerable patients.

It is important, however, to highlight that in some cases GPs did find alternative treatments to medication that were available but these were declined by patients;

“The majority of support came from me as the GP as the deceased declined bereavement counselling following her husband’s death” (GP305).

There were also patients who did not comply with alternative arrangements prepared to help them adhere to treatments and be monitored by specialist mental health teams;

“He was not compliant with medication so he had a depot injection from a CPN at out-patient appointments, but he was discharged due to DNAing [not attending] appointments” (GP81).

The issue of mental health teams discharging patients without GPs being informed or being included in the decision-making process was reported in 10 (9 %) cases. Although NICE guidelines (NICE 2011a) state that patients should be monitored regularly after self-harming or suicide attempts, GPs reported that these were not always followed;

“I felt the service was very poor as there was no follow up in the community. Community support for acutely ill patients needs to be improved especially for patients who DNA because this could be part of their mental health problems.” (GP104).

Overall, GPs reported feeling unsupported and isolated when managing non-adherence to treatment in primary care due to: (i) not being able to eradicate side effects that may affect a person’s quality of life; (ii) patient’s perception of the stigma attached to psychiatric illness; (iii) a lack of service accessibility for psychotherapy; (iv) patient’s relying on GPs as a source of emotional support; (v) patients declining alternative treatment options; and, (vi) mental health teams discharging vulnerable patients without follow up care in place.

4.3.5.3iii One ‘service’ does not fit all

GPs reported that many services catered for different mental health issues and that more services were needed to deal with patients who had multiple mental health disorders and/or chaotic lifestyles. GPs also highlighted that some patients used alcohol and/or drugs as a way of self-medicating, and had done so for many years. Management of non-adherence in primary care was difficult as most patients had many health and social issues that influenced their treatment behaviour. The following sections emphasise that across the sample, patients required different services to meet their individual health needs prior to suicide.

a. Chaotic lifestyles

One fifth of the patients who were non-adherent were reported to have chaotic lifestyles. For many of these cases GPs felt that the patient's lifestyle affected their ability to obtain the treatment they needed;

“He had a chaotic lifestyle and had taken drugs for years. He did not attend his appointments for his depots although the nurse did try her best to see him” (GP67).

GPs spoke of patients with chaotic lifestyles who had ongoing input from primary and secondary mental health care services but who still went on to die by suicide. Those patients were more likely to be from socially deprived areas, misused substances, had a history of self-harm and/or suicide attempts and a history of being sexually or physically abused;

“At his last contact he was threatening to cut his own throat and harm others; police were contacted and we had to refer him to [a] psychiatrist as he had not committed a crime. He had a 20 year history of self-harm and was in and out of care since age 7. He was physically and sexually abused in childhood. He had a childhood history of animal cruelty as he killed cats and was using drugs since age 18 and had a very chaotic lifestyle and was hard to pin down for appointments...On his last visit it was very hard to get a referral to the

community mental health team and I had seen him 3 times that week already – I felt they put it off... (GP188).

This illustrates the tension GPs face when managing patients who have multiple health and social issues, particularly when they are unsupported from specialist mental health services. In this study, many patients may have benefited from years of psychotherapy alongside psychotropic medication and/or rehabilitation programs for substance misuse/dependency. However, there appear to be obstacles and barriers in accessing services across the care pathway from when a patient consults with a GP to receiving specialist mental health care. Surprisingly, these problems still existed when GPs referred patients displaying risk factors of suicide to specialist mental health services.

b. Dual diagnosis and comorbidity

Dual diagnosis was reported for 69% of patients who were non-adherent to treatment and 80% of patients had two or more mental health diagnoses (see graph 2). Service availability was not an issue in all areas and GPs recognised that dual diagnosis was often a cause for non-adherence to treatment, particularly for attending or being available for mental health appointments;

“He could not attend appointments and received care as an inpatient, from outpatients and the community alcohol team but he did not want to engage with alcohol services...all his appointments were related to depression and alcoholism, followed by self-harm. He mostly phoned for consultations and also refused to see me when he was drunk.”
(GP251)

In this sample of patients, GPs conducted numerous home visits as some patients could not leave their home due to being agoraphobic or intoxicated; however they reported being let down when these patients were not assessed or followed up by mental health services due to

not attending or 'opting in' for appointments. GPs reported needing more support from mental health services with patients who were not responding to treatment or their input alone in primary care. GPs seemed discouraged with the lack of appropriate responses by mental health services for patients who were clearly unwell and needed support;

"Feels it's a 'Cinderella service' as mental health services don't seem to be interested in patients who haven't got a clear cut mental health diagnosis. Alcohol and drug dependency units are not interested in [people] addicted on benzodiazepines and alcohol unit is too far away, therefore not used enough" (GP106).

GPs perceived that it was sometimes a vicious circle as some patients were refused admission because they were intoxicated and were left for primary care to manage alone or patients were left to fend for themselves;

"...due to alcohol issues, psychiatry would not admit him. It was difficult to get him to come to appointments but family took him and GP did home visits" (GP239).

Nearly half of the GPs (48%) reported needing quicker and better services for comorbid and dual diagnosis (44%);

"Need better services for people with alcohol problems. Would be good to have psychologists overseeing and working as trainers for specific therapists who might run group therapies so that patients can be seen and time is used better" (GP185).

GPs highlighted that there was a need to 'strike while the iron's hot' particularly when patients, usually men, consulted for treatment for drug or alcohol dependency in primary care;

He was in and out of prison and while in prison he had two suicide attempts. He always struggled with alcohol and depression was secondary to this. He would come in [to

primary consultations with GP] and want help NOW and then DNA if treatment took time. He had an extremely chaotic use of the system.” (GP223).

GPs believed that many missed appointments that resulted in patients being removed from mental health services were alcohol related. GPs suggested that community psychiatric nurses should be brought back into GP surgeries as patients could be seen immediately for an assessment and referred for treatment within an appropriate service;

“Overall length of waiting time needs to be improved, need some community based projects especially in areas of social deprivation. Big problems with patients with alcohol problems as inadequate access to: counselling, psychology, drug and alcohol teams - most services have very long waiting lists. Issues with dual diagnosis patients, especially young men, with drug, alcohol and mental health issues who needed treatment immediately. Need CPNs back in the surgeries as it was much better then” (GP161).

c. Self-medication

GPs spoke of patients who used substances to self-medicate and this contributed to non-adherence to treatment;

“He was admitted to hospital as feeling suicidal cause of the pain in his brain. He was smoking cannabis twice a day to get rid of his pain. He was paranoid and had not slept for 3-4 days and feels like stabbing himself in the heart or shooting himself if his pain does not stop.” (GP63).

Self-medication was reported often for patients who had been abused in their childhood (n=9);

“He used to drink alcohol to self-medicate” (GP41);

The findings suggest that dealing with the underlying issues of abuse may be the primary concern and by treating those initially may improve patient adherence to treatment. GPs understood in some cases that patients needed more treatment than they could offer in primary care consultations and identified that some patients needed additional treatment from psychological services which was only available in 6-24 months time in most areas and unavailable in others.

4.3.6 Discussion for non-adherence paper

4.3.6.1 Main findings

All the patients who were non-adherent to treatment consulted with a GP in the year prior to suicide and the majority consulted three or more times giving primary care a potential opportunity to intervene. Dual diagnosis and comorbidity was prevalent, with most patients having two or more mental health diagnoses. Multiple self-harm incidents, serious suicide attempts and/or suicide ideation was present in many patients' consultations in the year prior to suicide. GPs reported the following reasons for patient non-adherence to treatment: lack of insight and/or denial, medication side effects, lack of treatment options for individual patients and multiple psychiatric diagnoses. GPs reported the dilemma they faced when managing patients who were convinced that they did not have a mental health diagnosis. GPs recognised that some patients found the side effects of psychotropic medications intolerable but felt that treatment choice was often compromised due to the lack of resources, lack of access to services or lack of support from mental health professionals. This frustration was more evident for patients with multiple psychiatric disorders where appropriate services were not available to meet individual patient needs. GPs reported that some patient suicides may have been prevented had these services been available. GPs raised their concerns about vulnerable patients not being followed-up as a result of being unable to attend appointments

and being left alone to fend for themselves or solely under the management of primary care. Again, these issues were heightened in patients with multiple mental health diagnoses and substance misuse issues.

4.3.6.2 Methodological considerations

The findings in this study should be interpreted in the context of a number of methodological limitations. This is essentially a study of the primary care management of a secondary care sample, thus the issues identified may not apply to all people who die by suicide in primary care. The adherence data may be under reported as primary care or secondary care services may not have known whether people were adherent to treatment or not (an ascertainment bias). Some of the data were retrospectively collected so there is also the possibility of recall bias, although this is unlikely to have a significant impact upon the medical records data.

Previous studies have identified variations in accuracy or the amount of detail provided in case records (Mistry *et al*, 2005; Jordan *et al*, 2004); however, good agreement has also been found when comparing GP records and patient self-report questionnaires for the mean number of consultations in both sources (Mistry *et al*, 2005). A systematic review into the quality of computerised medical records found that the recording of consultations on such systems tended to be good (Jordan *et al*, 2004). In addition, our primary care data was supplemented by interviews with GPs and our secondary care data collection (by means of a dedicated proforma) was collected directly from the clinicians caring for the patients.

Our findings may not be representative of the rest of the UK although many of the issues we identified are likely to apply across services. It should also be noted that our data are now several years old. As a consequence some of the study findings might not necessarily reflect current clinical practice.

4.3.6.3 Clinical and Research implications

For suicide prevention, it is crucial for health professionals to assess patients and manage the possible causes of non-adherence (Jimmy and Jose, 2011). Whilst many of the issues are not specific to suicide; they have specific meanings in relation to suicide prevention (Hawton *et al*, 2005; Goff *et al*, 2010; Tacchi and Scott, 2005; Novick *et al*, 2010; Higashi *et al*, 2013; Hong *et al*, 2011; Apantaku-Olajide *et al*, 2011). However, the difficulties faced when implementing new strategies for suicide prevention in primary care are highlighted in this study as patients were managed differently by GPs but all died by suicide. Strengthening adherence may include more consistent training for GPs in understanding the reasons for patient non-adherence to treatment in order to provide the most appropriate treatment. GPs may benefit from further training in encouraging patients to discuss their symptoms and side effects with their GPs, rather than simply to stop taking medication. GPs should also be encouraged to address patients' adherence strategies, since the time devoted to addressing that during treatment may prevent serious adverse events such as suicide attempts, relapse, treatment drop-out and hospitalisation. An alternative cost-effective method could use other healthcare professionals such as primary care nurse practitioners to regularly follow-up and monitor patients to improve adherence and assist with patients who may be having difficulties. However, improving medication adherence is challenging (Aldridge 2011). Service user literature on psychotropic medication suggests it can be frightening for some individuals and can feed into their mental illness and ultimately be more unhelpful psychologically (Gault *et al*, 2013). Further, additional support for patients may not necessarily improve adherence as the side effects will remain intolerable. Therefore, a shift in GP attitudes from a perception that patients lack insight into their mental illness to

recognition that there may be more suitable treatment options that meet an individual's needs could be more useful for suicide prevention.

GPs reported that nearly a fifth of the patients who were diagnosed with agoraphobia or were socially isolated, were often more vulnerable individuals requiring additional support. Of note, there were patients who received significant input from services (8%) who still went on to die by suicide. This raises the question that perhaps different interventions should be available to these patients. One option could be motivational enhancement therapy.

Motivational interventions were found to be useful for patient medication adherence in schizophrenia (Zygmunt *et al*, 2002) and may be beneficial in suicide prevention. Another challenge faced by GPs was for patients who appeared to accept treatment offered in primary care, where they would therefore not have intervened. In these consultations, patients may be behaving as they feel they are expected to behave in front of the GP (thus accepting the treatment offered) but what the patient did following the consultation was out of the GPs control. This issue further highlights the need of ongoing monitoring and assessment of patients who may vulnerable and at risk of suicide.

Our findings were consistent with previous studies with respect to the prevalence of alcohol and drug dependency, distressing side effects, chaotic lifestyles, co morbid disorders and dual diagnosis in patients who were non-adherent to treatment (Hawton *et al*, 2005; Goff *et al*, 2010; Tacchi and Scott, 2005; Novick *et al*, 2010; Higashi *et al*, 2013; Gold 2009). Patients with dual diagnosis can be more difficult to engage within services and this can be due to not wanting to take medication alongside drug or alcohol use (Higashi *et al*, 2013). This was also confirmed in this study. Previous research has reported the benefit of patient involvement in their treatment with health professionals in order to reduce non-adherence to medication

(Hong *et al*, 2011). Strengthening services for comorbidity and dual diagnosis may improve the engagement of young patients with primary and secondary care and could contribute to suicide prevention (Magura 2008; Magura *et al*, 2008)

These findings indicate that integrated services involving better communication and collaborative care between primary care, substance misuse and mental health services may benefit patients at risk of suicide. Research suggests that broad spectrum diagnosis and concurrent therapy will lead to more positive outcomes for patients with comorbid conditions and steady progress is being made on new and existing treatment options for comorbidity in a variety of settings, however access to these services is limited (Saini *et al*, 2010). This area warrants further research to investigate and understand the engagement and treatment differences in patients who are non-adherent to treatment to improve practice.

For suicide prevention, it may be important for health professionals to assess the possible causes of non-adherence and follow a policy for increasing treatment adherence and achieving the best health outcome. The introduction of new approaches may provide specialist interventions for patients who are non-adherent after finding out why they do not adhere (Hong *et al*, 2011). For example if non-adherence to medication is related to childhood abuse, patients could receive help for that first or alongside other treatment for mental health issues. Alternatively, if it is due to side effects GPs could find alternative treatments that the patients may prefer and follow. GPs could also inform patients' of the consequences of stopping medication and offer alternative treatment options when patients prefer to have other treatment choices. However, these treatment choices need to be made available and accessible to GPs. Additionally, understanding why some patients are non-adherent to treatment despite receiving a substantial amount of input from both primary and

secondary care mental health services warrants further research. Non-adherence to treatment needs to be explored in the context of patient autonomy (a patient's right to make decisions about their own treatment), as this may be important for suicide prevention and needs to be explored further.

4.3.6.4 Conclusion

Possible strategies to improve treatment adherence in order to contribute to suicide prevention could include: 1) GP training in the assessment of patients who are non-adherent and improved management of the possible causes of non-adherence; 2) increasing availability of alternative treatment options to medication in order to improve patient choice in primary care; and, 3) providing specialty services to assist GPs in treating patients with multiple mental health diagnoses, including drug and alcohol dependency. In line with previous research (Fawcett 1995), during primary care consultations, GPs could be trained to: define the illness from the patient's point of view; define target symptoms and severity; convey empathy, support and understanding of the patient's experience; provide rationale for use of medication (mention beneficial effects, disclose side effects) or appointments with mental health professionals; understanding of medication side effects and how these may impact on a patient's decision making process; explain the importance of taking the prescribed dose where appropriate; convey hope and optimism; establish a therapeutic alliance; and discuss alternative available treatments. Follow-up visits are also very important for enhancing and monitoring adherence and should include assessing a patient response to treatment, evaluating possible side effects and management by GPs and/or mental health professionals. Clear guidelines need to be in place to deal with patients who do not attend appointments with mental health professionals. Discharging patients who do not attend

appointments should be avoided and joint working should be increased within the health service.

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Figure 6: Flow diagram of patient adherence data

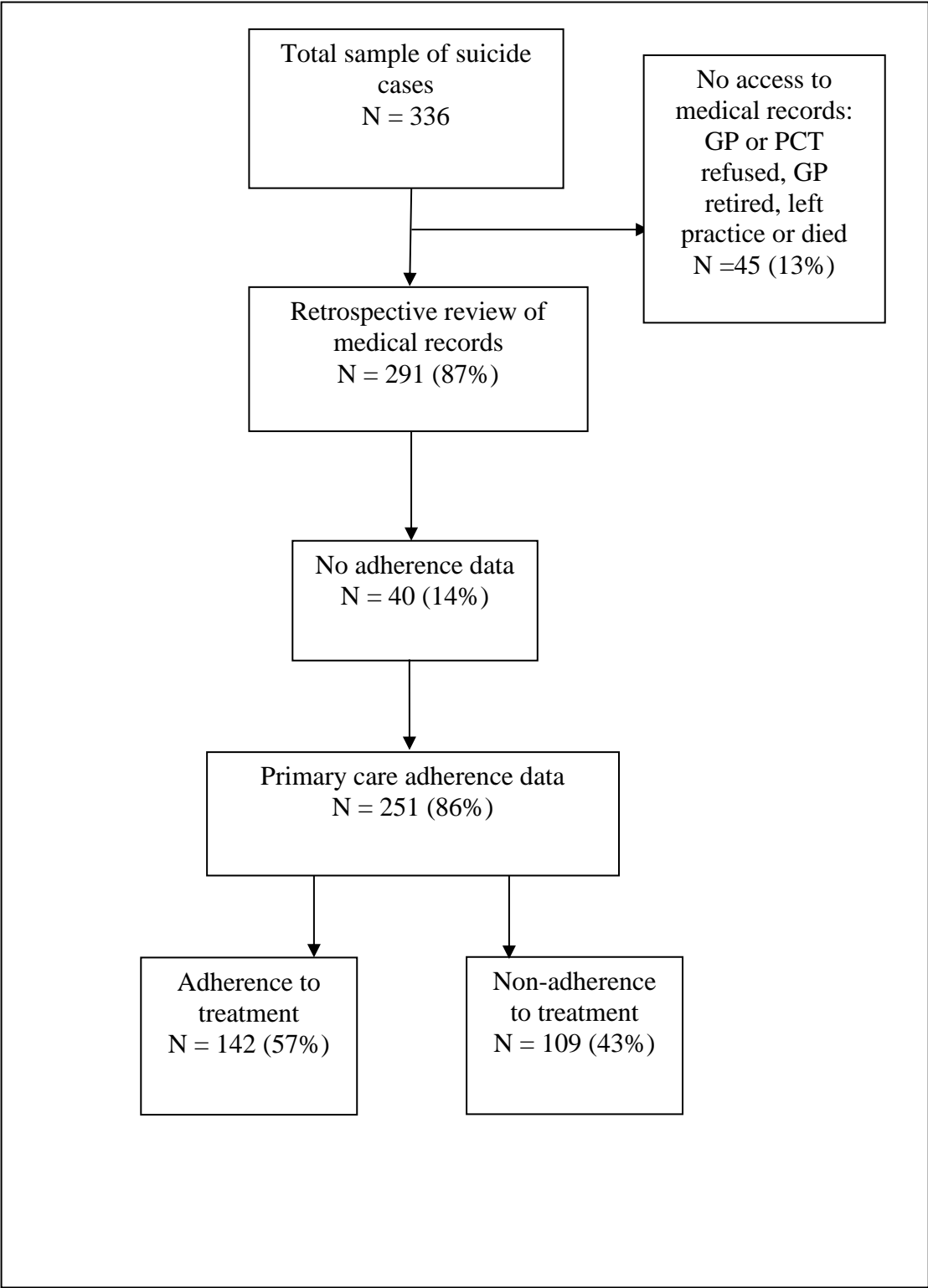
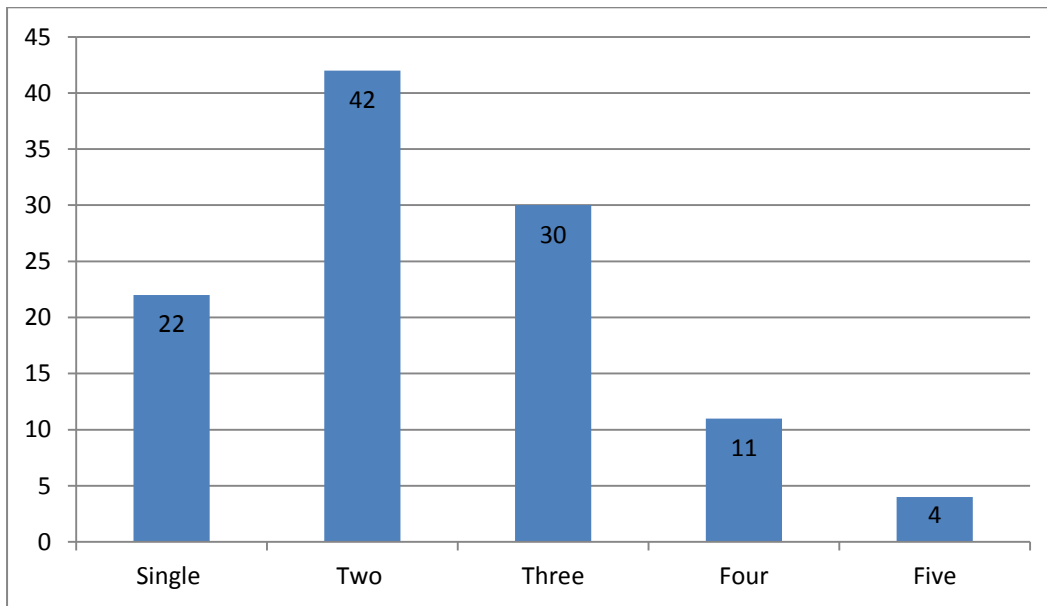


Table 4: Characteristics, contact and treatment in primary care for patients who were non-adherent with treatment prior to suicide

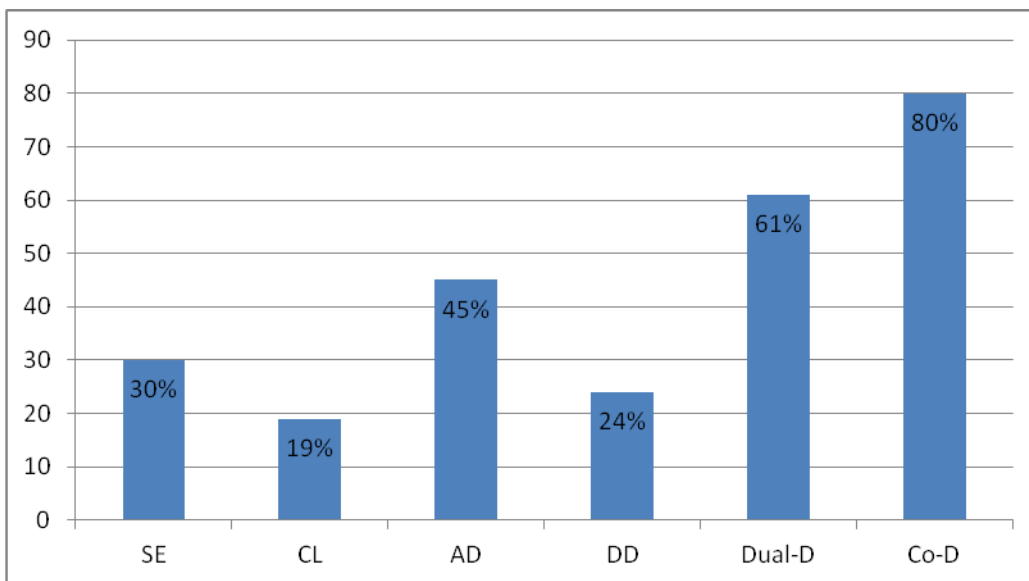
| Variable | n | % |
|---|-----|----|
| <i>Demographics</i> | | |
| Age (n=109) | | |
| <39 years | 38 | 35 |
| 39-52 years | 34 | 31 |
| >52 years | 37 | 34 |
| Male (n=109) | 70 | 64 |
| Not married (n=107) | 80 | 75 |
| Unemployed/ long-term sick (n=102) | 58 | 57 |
| Living alone (n=109) | 51 | 47 |
| <i>Clinical features</i> | | |
| Mental health diagnosis (n=109) | 107 | 98 |
| Depression/Anxiety (n=109) | 68 | 62 |
| Schizophrenia (n=109) | 15 | 14 |
| Agoraphobia (n=109) | 18 | 17 |
| Personality disorder (n=109) | 6 | 6 |
| Alcohol dependence (n=109) | 49 | 45 |
| Drug dependence (n=109) | 26 | 24 |
| Comorbid disorder# (n=109) | 87 | 80 |
| Dual Diagnosis~ (n=109) | 66 | 61 |
| GP concern for patient safety at last contact (n=84) | 28 | 33 |
| Suicide ideation at last contact with primary care (n=78) | 18 | 23 |
| <i>Behavioural features</i> | | |
| History of serious suicide attempt(s) | 26 | 24 |
| History of self-harm (n=109) | 81 | 74 |
| Distressing drug side effects (n=109) | 33 | 30 |
| Chaotic lifestyle (n=109) | 21 | 19 |
| <i>Treatment</i> | | |
| No contact with GP during 12 months prior to death | 0 | 0 |
| Number of GP contacts during 12 months prior to death: | | |
| 0-2 contacts | 20 | 18 |
| 3-8 contacts | 47 | 43 |
| 9 or more | 42 | 39 |
| Last consultation within one month of death | 52 | 48 |
| Reason for contact: | | |
| Psychological | 59 | 55 |
| Physical | 5 | 5 |
| Psychological and physical | 17 | 16 |
| Other | 26 | 25 |
| Consultation following recent self-harm/suicide attempt (n=104) | 26 | 25 |
| Treatment at last consultation (n=109) | 82 | 79 |
| Medication (n=109) | 53 | 60 |
| General Advice / Counseling (n=109) | 13 | 15 |
| Referral (n=109) | 23 | 26 |
| Accepted treatment at last consultation (n=109) | 59 | 54 |
| GP knew patient well (n=82) | 57 | 70 |

#Comorbid disorders include: schizophrenia, bipolar disorder, depression, anxiety, personality disorder, alcohol dependence, drug dependence; ~Dual diagnosis include: alcohol dependence or drug misuse and one other psychiatric diagnosis

Graph 1: Number of mental health diagnosis for patients who were non-adherent to treatment



Graph 2: Main reasons for patient non-adherence to treatment reported by GPs



SE =side effects, CL = chaotic lifestyle, AD = alcohol dependency, DD = drug dependency, Dual-D = dual diagnosis, Co-D = comorbid disorder



4.4 Paper 4: Saini P, Windfuhr K, Pearson A, *et al.* (2010) Suicide prevention in primary care: General practitioners' views on service availability.

BMC Research Notes, **3**, 246.

SHORT REPORT

Open Access

Suicide prevention in primary care: General practitioners' views on service availability

Pooja Saini¹, Kirsten Windfuhr^{1*}, Anna Pearson¹, Damian Da Cruz¹, Caroline Miles², Lis Cordingley¹, David While¹, Nicola Swinson¹, Alyson Williams¹, Jenny Shaw¹, Louis Appleby¹, Navneet Kapur¹

Abstract

Background: Primary care may be a key setting for suicide prevention. However, comparatively little is known about the services available in primary care for suicide prevention. The aims of the current study were to describe services available in general practices for the management of suicidal patients and to examine GPs views on these services. We carried out a questionnaire and interview study in the North West of England. We collected data on GPs views of suicide prevention generally as well as local mental health service provision.

Findings: During the study period (2003-2005) we used the National Confidential Inquiry Suicide database to identify 286 general practitioners (GPs) who had registered patients who had died by suicide. Data were collected from GPs and practice managers in 167 practices. Responses suggested that there was greater availability of services and training for general mental health issues than for suicide prevention specifically. The three key themes which emerged from GP interviews were: barriers accessing primary or secondary mental health services; obstacles faced when referring a patient to mental health services; managing change within mental health care services

Conclusions: Health professionals have an important role to play in preventing suicide. However, GPs expressed concerns about the quality of primary care mental health service provision and difficulties with access to secondary mental health services. Addressing these issues could facilitate future suicide prevention in primary care.

Background

Suicide is a leading cause of death in England and Wales, accounting for approximately 5000 deaths annually [1,2]. Approximately one-quarter of individuals who complete suicide have been in contact with mental health services [3]. While suicide prevention is clearly important within mental health services, it is not exclusively the remit of any one service [1]. There is good evidence to suggest that initiatives within primary care may contribute to suicide prevention [4-8]. Further, appropriate training for GPs in the identification and treatment of mental health problems has been shown to be effective [9] as has training in suicide prevention [10] (although this has not been found consistently) [11]. As such, it is important to have appropriate services within primary care to effectively manage patients with suicidal

behaviour and to ensure access to specialist mental health services when required.

To date, studies on suicide prevention in primary care have focused on the identification, management and assessment of risk [10,12,13] and treatment of depression [14,15]. However, comparatively little is known about what suicide prevention services are available in primary care, or general practitioners' (GPs) experiences of accessing and using these services.

The aims of the current study were to describe services available in general practices for the management of suicidal patients, and to examine GPs views on these services.

Methods

Sample

The data collected for this study form part of a larger investigation into health service contacts for a sub-sample of patient suicide cases occurring in the North West of England, collected as part of the National Confidential Inquiry into Suicide and Homicide by People

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with Mental Illness (Inquiry) [3,4]. The Inquiry collects data on all suicide deaths for individuals who had been in contact with mental health services in the 12 months prior to death [3].

During the study period (2003-2005) we used the Inquiry database to identify 286 general practitioners (GPs) who had registered patients who had died by suicide. As the study was based on Inquiry data all GPs had been the primary care physician for a patient who had also been in contact with mental health services prior to their death. GP details were obtained from local NHS Trusts or from the coroner files relating to the decedent.

We carried out a questionnaire and interview study collecting data on GPs views of suicide prevention generally as well as local mental health service provision. The semi-structured interviews were carried out with GPs consent. The interview schedules were adapted from tools used in previous studies conducted within the Inquiry [16-18]. The interviews ranged between 20 and 40 minutes in duration and took place in GP practices. Practice managers completed the service related questions if GPs were not available (in 5% cases). With the agreement of the participant, interviews were recorded and transcribed verbatim by a member of the research team.

Data Analysis

Descriptive statistics

Quantitative data analyses were conducted using SPSS 15.0 for Windows (SPSS Inc. 2006) [19]. Descriptive statistics are presented including percentages and 95% confidence intervals. When percentages are quoted, these refer to 'valid cases', i.e. those for whom the relevant information was available. Therefore, if an item of information was not known about a person, they were excluded from the analysis of that item. As a result the denominator may vary slightly between analyses.

Qualitative analysis

Framework analysis was used to analyse GP interview transcripts [20]. In this approach, one piece of data (e.g. one statement, one theme) is taken and compared with all information for similarities or differences. The analysis was principally conducted by the first author, and also by the third and fourth author. Transcripts were examined across the whole data set as well as in the context of each interview, using thematic analysis. The transcripts were read independently and emergent themes and key issues were discussed. The data were interpreted and reanalyzed within the thematic framework to interpret and structure the component statements.

In some cases practice managers and GPs provided data. Where reference is made to respondents, both

practice managers and GPs provided the data and where reference is made to GPs views, this represented GP views only.

Results

Of the 286 GPs who had registered patients who had died by suicide, 159 (56%) agreed to participate and were interviewed. A GP was unavailable for interview in eight cases (e.g. retired, deceased, left practice). In these cases, the practice manager completed the service structure questionnaire. Therefore, interview data on GPs views on suicide prevention was collected for 159 (56%) cases and data on service availability was collected for 167 (58%) cases.

Descriptive analysis

The responses to the service questionnaire are shown in Table 1. The majority of practices reported having a psychiatric liaison process. Respondents reported that specific staff training on suicide and self-harm awareness was provided less frequently than training on mental health issues more generally (31% v. 56%, $p < 0.001$). There were significantly fewer services addressing suicidal ideation and self-harm compared to services for mental health problems more generally (16% v. 74%, $p < 0.001$).

Approximately two thirds of respondents reported that they were affected by the suicide of a patient. There was little support for staff in the event of a patient suicide. Support was usually received from work colleagues informally; respondents were not aware of any formal support systems at the time of the suicide.

Qualitative analysis of GP interview data

Table 2 shows the themes and subthemes relating to GPs views on mental health service provision with selected key quotes. The findings are discussed more fully below.

(i) Barriers to accessing primary or secondary mental health services Respondents reported a lack of access to mental health services within both primary and secondary care. Some respondents believed this was a result of the introduction of Community Mental Health Teams (CMHTs), a reduction of onsite mental health care services and lack of resources generally. More specifically, respondents spoke of very limited access to services, which they felt did not meet patient need. Further, waiting lists were often several months long or closed due to excessive demand.

GPs were concerned about the lack of treatment options for patients diagnosed with mild to moderate depression or anxiety. These patients rarely met the criteria for a review by CMHTs and were generally referred back to primary care where there were long waiting lists to access primary care mental health

Table 1 GP responses to service structure questionnaire

| | Yes % (n) n = 167 | No % (n) n = 167 | N/k % (n) n = 167 |
|--|----------------------|---------------------|----------------------|
| Does this practice have a specific psychiatric liaison process? | 85.6 (143) | 14.4 (24) | 0 |
| Are there any additional services/schemes provided at this practice to deal with mental health issues? | 73.7 (123) | 26.3 (44) | 0 |
| Are there any additional services/schemes provided at this practice to deal with suicidal ideas/DSH? | 16.2 (27) | 83.8 (140) | 0 |
| Are there any services/schemes which you think are needed in relation to mental health issues? | 85.6 (143) | 13.2 (22) | 1.2 (2) |
| Are there any services/schemes which you think are needed in relation to suicidal ideas/DSH? | 51.5 (86) | 41.9 (70) | 6.6 (11) |
| Does this practice have any written policies/protocols regarding mental health? | 37.1 (62) | 51.5 (86) | 11.4 (19) |
| Does this practice have any written policies/protocols regarding suicide/DSH? | 24.0 (40) | 72.4 (121) | 3.6 (6) |
| Do the staff at this practice receive training on mental health issues? | 55.7 (93) | 44.3 (74) | 0 |
| Do the staff at this practice receive training on DSH/suicide awareness? | 30.5 (51) | 67.7 (113) | 1.8 (3) |
| Do the staff at this practice receive training on risk assessment for suicide? | 29.9 (50) | 68.3 (114) | 1.8 (3) |
| Do suicides have an effect on you as a GP? | 61.0 (102) | 21.2 (35) | 17.8 (30) |
| Is there any support for GPs when patients commit suicide? | 25.8 (43) | 32.1 (54) | 42.1 (70) |

Table 2 Selected key quotes representing the themes and subthemes relating to GPs views on mental health service provision

| Theme | Subtheme | Statement/meaning unit |
|------------------------|---|---|
| Barriers | Lack of access to Secondary MH services | "Main problem is lack of staff, psychologists, CPNs and now have half the number of psychiatrists in their area than there should be." "Cannot refer directly, need to go via CMHT who may send referral back." |
| | Long waiting lists | "Have a two-tier service for brief intervention such as CBT but waiting times are about 18 months." "Long waiting lists for counsellors so GPs do not bother referring." "Waiting lists for mild to moderate mental health problems need to be improved as currently very poor." |
| | Closed lists | "Psychology service was closed for 2 years, no access to psychology in this area." "Lack of counsellors and psychologists, 2 year waiting lists and no CBT available." |
| | Not admitted to inpatient unit | "Waiting times and a lack of beds is a problem. Sometimes patients who are referred for assessment cannot be admitted as there are no beds. Sometimes patients have to wait too long." |
| | Lack of dual diagnosis services | "Main problem in this area is for alcohol issues as these patients are a high risk for suicide yet they are hard to admit if they need to detoxify." |
| Referrals | Access & Rigid criteria | "GPs do not have quick access to support services within mental health services, especially at early stages where they have no immediate access. This may be due to the CMHT not allowing immediate access as they have very rigid criteria. Therefore need faster assessments for vulnerable patients, especially if the GP has assessed them and thinks they are in need of some treatment." |
| | Do Not Attend/reply - no follow up | "All referrals go to CMHT who then decide who to access and invite for assessment. If no response from patient the CMHT do not follow up. The referral system is not good." |
| | Referred back to Primary Care | "Service not good if service feels patients do not need to be seen. CMHT seem to refer patients back, find every reason not to see them - this may be due them being under resourced." |
| | Under resourced | "No immediate access at initial stages and staff should have more specific training. Provision of CMHT service is based on resources not on patient needs." |
| | Positive systems in place | "Triage system for prompt assessment of mental health issues. If the GP feels there is a problem, can get it assessed quickly by a mental health worker who will refer the patient for specific treatment." |
| Managing Change | GPs feel unsupported | "Feel very unsupported as GPs. Currently trying to improve services for people with anxiety/depression as if not seen as a major illness referrals will not be seen by anyone." |
| | Lack of staff & high turnover of staff | "Main problem is lack of staff, psychologists, CPNs and now have half the number of psychiatrists in their area than there should be." |
| | Community Psychiatric Nurse (CPN) on site | "Was better when CPNs were part of the surgery and not separate as now the SMI criteria is not met by some moderate/low depression cases and they are rejected and do not get seen or reviewed." "Very good access to CPN service. If psychotic or urgent case can contact psychiatrist directly. CMHT is on site so can ring duty CPN everyday and they'll sort out referral." |
| | Crisis Team | "Used to have CPN and psychiatrist attached to the surgery with meetings every month which reduced waiting time to two weeks. Now have to go via CMHT which is not as good, would prefer old system but cannot afford or have access to resources." "Better services as some people are not seen by crisis team even if GP has recommended they need to be. Sometimes GP has to really force for patients to be seen. Feels there should be assessments in patients' own environment not only in A&E." |

services. GPs felt that primary and secondary mental health services were being targeted towards patients with severe and complex problems while the needs of patients with mild to moderate mental health problems were largely unmet.

There were particular issues in relation to accessing services for the management of suicidal ideation and self-harm. Specifically, primary care services were insufficient in the following ways: lack of access to crisis teams; lack of beds available in some in-patient units; dual diagnosis patients not admitted as a result of intoxication at the time of admission.

(ii) Obstacles faced when referring a patient to mental health services In the previous referral system GPs had been able to directly contact a named psychiatrist about a patient; this rarely happened under the new referral system. The new methods of referral were unpopular with GPs as they felt patients who were referred to see a consultant were sometimes assessed by mental health workers and referred back to primary care services without ever having seen a psychiatrist.

GPs also felt unsupported in their decision-making regarding patient referrals and raised the need for more appropriate and faster assessments for vulnerable patients. Specifically, GPs mentioned the following problems:

- CMHTs did not see all patients referred by GPs if they felt the patient did not meet their criteria to be assessed
- GPs felt they sometimes had to force CMHTs to consider patients they felt were high priority
- CMHTs did not follow up patients who did not attend their assessment appointments, even though some patients may not have been attending due to their mental illness.

However, GPs also acknowledged the pressure CMHTs were under due to high demand and lack of resources.

(iii) Managing change within mental health care services Respondents were critical of the new patient referral system noting that they now had little access to psychiatrists and there was a constant turnover of psychiatric staff. Most practices now referred patients to community psychiatric nurses (CPNs) or psychiatrists via CMHTs, which they felt was not as efficient as the old referral system. The old system involved having a CPN on site and regular contact with psychiatrists to discuss patients (e.g. patients on the severe mental illness (SMI) register).

For urgent mental health assessments under the new referral system GPs referred to mental health crisis teams who were meant to provide a 'hospital at home'

service for people with mental illness [21]. Crisis teams, comprised of CPNs, social workers and support workers, are available 24 hours a day, seven days a week to assess patients in line with mental health legislation and provide support and short-term help. GPs that had a good relationship with their local crisis team were very positive about them. However, GPs were less positive about local crisis teams when they had referred patients who were subsequently not assessed by crisis teams; in these instances GPs had to insist their patient be seen. These GPs felt extremely unsupported by local mental health services and felt they had no other treatment options except prescribing medication. GPs complained of an increase in the fragmentation of services, inadequate continuity of care for patients and poor communication between services.

To address concerns about the lack of access to specialist mental health services some practices had employed graduate mental health workers (GMHW) to work on-site. Graduate mental health workers are an additional, specialist service available within primary care settings to provide treatment for patients with mild to moderate mental health needs [22]. Most GPs seemed positive about this service although some were sceptical as they could not offer an equivalent level of mental health care as CPNs or psychiatrists.

Summary of main findings

GPs in this study raised concerns about the provision of services and training for mental health problems generally and for the prevention of self-harm and suicidal ideation specifically. Two-thirds of GPs were affected by the suicide of their patient, although only a quarter reported being aware of any support available to them. Perhaps unsurprisingly, GPs who were most positive about secondary care mental health services had easy access and good relations with their local mental health services. In these areas GPs reported good communication and liaison between primary care and mental health professionals. Dissatisfied GPs repeatedly stated that they felt services were better when CPNs and psychiatrists were more accessible. The key themes that emerged from interviews were lack of access to mental health services, problems referring patients to these services and working with the changing remit of mental health services.

Methodological issues

This was a comparatively large study but the findings must be interpreted in the context of a number of limitations. The GPs recruited to the study were a selected group (individuals who had experienced the suicide of a patient who was under the care of mental health services). Such individuals may have different views from GPs who have never experienced a patient suicide or

who have experienced the death of a patient by suicide not under the care of specialist services. Those who responded might also differ in important ways from those who did not respond. A systematic comparison of responders and non-responders was not possible making it difficult to comment on potential biases, however our study contained large absolute numbers (higher than previous studies) and similar key issues were consistently raised by our participants. Another limitation was the fact that the study was carried out in a single region in England so the results may not be applicable to other areas with different populations and clinical services. In addition, data were coded by different members of the research team. However, 114 (68%) were validated by another member of the research team - there was agreement in 112 (98%) cases.

Implications

Health professionals have an important role to play in suicide prevention [1,3]. In this study, many GPs expressed concern about the quality of primary care mental health service provision and difficulties with access to secondary mental health services [22]. Many of these barriers were not specific to suicide prevention, although addressing them could have a positive impact potentially reducing suicide risk among patients who consult GPs prior to suicide.

Many GPs reported that they had not received formal training in self-harm and suicidal ideation. GPs that had experienced a patient suicide commented on the lack of support. Patient suicides can be devastating for clinicians, arousing feelings of guilt, fear and professional inadequacy [23,24]; formal support systems should be readily available [25].

GPs appeared cautious in some cases about referring patients to mental health specialists due to their perceptions of negative outcomes for these individuals, (e.g. patients not being assessed despite a GP referral) and by a lack of access to treatment options (e.g. psychological services) due to long waiting lists. GPs reported that they had to manage patients with a range of mental health problems including those with serious mental illness, even though Community Mental Health Teams (CMHTs) had been introduced to treat this patient group. Strategies have also been introduced to facilitate the management of patients with mild to moderate mental health problems (e.g. graduate mental health workers (GMHW)) [22]. However, implementation of this role has been problematic (e.g. lack of clarity regarding training, management and their clinical role) [26,27]. Further work should look at the impact of these strategies and GPs decision-making to refer patients to mental health specialists.

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Authors' contributions

The study was principally designed by KW, PS, NK, LA, JS but all authors had input into aspects of study design. Ethical approval was obtained by DDC and KW. Data collection was carried out by PS, AP, DDC, and CM, supported by AW, NS and KW. Initial data manipulation was carried out by PS, AP, DDC and CM, supervised by DW and LC. Data analysis was carried out by PS, AP, DDC and CM, supervised by DW and LC. Clinical input was provided by NS and NK. The manuscript was prepared by PS, KW, and NS, with supervision from NK, LC, JS and LA. All authors commented on drafts of the paper and contributed to the final version.

Competing interests

LA is the National Director for Health and Criminal Justice, England. NK is Chair of the Guideline Development Group for the new National Institute for Clinical Excellence (NICE) guidelines into self-harm.

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4.5 Paper 5: Saini P, Chantler K, Kapur N. (2015) GPs' perspectives on primary care consultations for suicidal patients. *Journal of Health and Social Care*, 1-10. doi: 10.1111/hsc.12198.

General practitioners' perspectives on primary care consultations for suicidal patients

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What is known about this topic

- GPs can play an important role in suicide prevention as a substantial proportion of suicide patients have visited their GPs weeks or months prior to their death.
- Previous studies have been largely descriptive and have focussed on consultation behaviour or clinical characteristics prior to suicide rather than contextual data from consultations.

What this paper adds

- GPs had difficulty in accurately interpreting patients' talk and behaviour prior to suicide.
- GPs highlighted the need for improved access to secondary care to support patients better and reduce GPs' sense of professional isolation.
- The tensions GPs faced when respecting patient autonomy and fulfilling their professional responsibilities were often in conflict with each other.

Abstract

Little is known about general practitioners' (GPs') perspectives, management of and interactions with suicidal patients prior to the patient's suicide. The aims of the study were to explore GPs' interpretations of patient communication and treatment in primary care leading up to suicide and to investigate the relationship between GPs and mental health services prior to a patient's suicide. Thirty-nine semi-structured interviews with GPs of people who had died by suicide were conducted as part of a retrospective study. Interviews were transcribed verbatim and analysed using a thematic approach. The following themes emerged from GP interviews: (i) GP interpretations of suicide attempts or self-harm; (ii) professional isolation; and (iii) GP responsibilities versus patient autonomy. GPs recruited for the study may have different views from GPs who have never experienced a patient suicide or who have experienced the death of a patient by suicide who was not under the care of specialist services. Our findings may not be representative of the rest of the United Kingdom, although many of the issues identified are likely to apply across services. This study highlighted the following recommendations for future suicide prevention in general practice: increasing GP awareness of suicide-related issues and improving training and risk assessment skills; removing barriers to accessing therapies and treatments needed in primary care; improving liaison and collaboration between services to provide better patient outcomes; and increasing awareness in primary care about why patients may not want treatments offered by focusing on each individual's situational context.

Keywords: general practitioner, mental health services, primary care, self-harm, suicide

Introduction

Research into suicide prevention in primary care is relatively sparse (Schulberg *et al.* 2004, Mann *et al.* 2005, Bajaj *et al.* 2008, Bryan *et al.* 2009, Kendall & Wiles 2010, Saini *et al.* 2010, O'Connor *et al.* 2013). The identification and management of suicidal ideation in primary care is a central component of suicide prevention policies (Department of Health [DH] 2012). Despite the emphasis placed on primary care, studies have found relatively low levels of assessment of suicide risk among patients treated in this setting (Schulberg *et al.* 2004, Bryan *et al.* 2009). Previous work has been unable to determine the balance of benefits and harms of screening for suicide risk in primary care settings, but has recommended that general practitioners (GPs) should be alert to suicidal ideation among patients exhibiting depression and other well-established risk factors such

as previous suicide attempts, history of self-harm or substance misuse and chronic physical health issues (Schulberg *et al.* 2004, DH 2012).

Over 90% of patients who die by suicide have visited their GPs within weeks or months of their death, and the vital role that GPs can play to reduce suicide deaths has been recognised (Luoma *et al.* 2002, Pearson *et al.* 2009, Rodi *et al.* 2010). In a recent large study from the United Kingdom, patients who consulted frequently in primary care were at high risk of suicide, particularly in the 2 or 3 months prior to death (NCISH 2014). Despite evidence that people who die by suicide are more than twice as likely to have seen a primary care provider than a mental health provider prior to their death (Luoma *et al.* 2002), suicide-related discussions in primary care appear to be rare (Isometsa *et al.* 1995, Pearson *et al.* 2009). Patients communicate suicidal intent differently and explicitly inform their GP of life-ending thoughts and plans in 3.3–15% of primary care consultations prior to suicide (Matthews *et al.* 1994, Isometsa *et al.* 1995, Pearson *et al.* 2009).

Previous research has examined primary care consultations before suicide in those under mental healthcare, but this has been largely limited to descriptive studies of patient characteristics and attendance rates (Luoma *et al.* 2002, Pearson *et al.* 2009, Rodi *et al.* 2010) rather than contextual data from consultations. Some qualitative studies have been carried out, including those which have explored the role of lay persons in suicide prevention (Owens *et al.* 2011, Owen *et al.* 2012). However, few have investigated the role that primary care services might play in efforts to reduce the incidence of suicide (Bajaj *et al.* 2008, Kendall & Wiles 2010, Saini *et al.* 2010). To date, much research in primary care has focussed on training GPs to identify, manage and assess suicide risk, particularly in patients with a diagnosis of depression (Milton *et al.* 1999, McDowell *et al.* 2011, DH 2012).

The recognition of suicidal ideation in primary care is important. Currently in the United Kingdom, GPs use the patient health questionnaire (PHQ-9) for assessing and monitoring depression (NICE CG23, 2004) and 'biopsychosocial assessments' to assess patients' risk (NICE CG90, 2009). However, the general use of risk scales for suicidal ideation or behaviour is controversial (Quinlivan *et al.* 2014). Even less clear is what action primary care physicians should take when suicide risk is detected. If risk is high, referral to specialist mental health services is the usual course of action, but there is little official guidance or literature on when or how to refer. Some UK-based guidance suggests that patients should be

referred for urgent assessment if they score above particular thresholds on screening instruments (GP Notebook 2011, The IAPT Data Handbook 2011), but the impact of such management decisions is unclear.

General practitioners can play an important role in suicide prevention, but little is known about the specific interactions they have with patients who go on to take their own lives or about GP liaison with mental health services prior to a patient's suicide. Communication and liaison between primary care and mental health service providers is essential for effective referrals and treatment. A lack of communication can result in disruption of care, missed or delayed diagnosis, a loss of data in the referral process, missed appointments and repeated or unnecessary testing (Epstein 1995). Few studies have investigated patient referrals from primary care to mental health services or vice versa (Chew-Graham *et al.* 2007). One study reported on superficial agreements between the two services on the function of the mental health teams, but the decision-making within the team about referral criteria was inconsistent and did not appear to examine the needs of the referred patient. The referral criteria seemed to concentrate on the needs of the secondary mental healthcare staff (and the pressure they were under) rather than primary care perspectives of the needs of the referred patient. No studies to our knowledge have reported on the communication and liaison between GPs and mental health services for patients who have died by suicide or may be at risk of suicide.

Given these gaps in the literature and lack of qualitative research, our study's purpose was to generate rich narratives from GP interviews to obtain insights that are typically overlooked or more difficult to capture via quantitative means. The specific aims of the study were to explore GPs' interpretations of patient communication and treatment in primary care leading up to suicide and to investigate GPs' views on the relationship between primary care and mental health services prior to a patient's suicide.

Method

Sample and participants

Details were obtained from the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (Inquiry) for a consecutive case series of 50 patients. The patients had died by suicide between 1 January 2005 and 30 June 2007 and had been in contact with mental health services in the

North West of England. The Inquiry provides a UK-wide case series of all suicides by people in contact with mental health services in the year prior to death. The ascertainment procedures are robust and the response rates high (over 95%) (Appleby *et al.* 2013). Contact details for GPs of the patients identified from the Inquiry were obtained from patient coroner files or administrative departments of NHS Trusts.

Methods: interviews

Each patient's named GP was contacted by letter to participate in the study. Of 50 potential GP participants, 39 were interviewed. Nine did not participate as they had retired, left the practice or died, and two GPs changed their minds about participating at the time of the interviews. Thirty-nine semi-structured face-to-face interviews were conducted with GPs between 1 June 2007 and 31 October 2009 and lasted between 20 and 40 minutes. Eleven of the GPs were female, 28 were male and the length of time since qualifying ranged from 8 to 37 years, with an average of 19 years. All interviews took place in the GP surgeries and were recorded with permission and then transcribed verbatim. Where named GPs were unavailable, practices were contacted to nominate a suitable alternative GP who had treated the patient in the year prior to death. All interviewees were sent a participant information sheet and indicated their willingness to participate by completing a consent form. An interview schedule was used to collect data, which was adapted from tools used in previous research (see Pearson *et al.* 2009, Saini *et al.* 2010).

General practitioners and the interviewer had access to patient's medical records throughout the interviews. Interviews were carried out to explore GPs' interpretations of patient consultations in primary care by examining (i) the way in which the individual's emotional distress was interpreted by GPs; (ii) GPs' responses to patients; and (iii) the relationships and communication between GPs and mental health services prior to a patient's suicide. GPs were asked for information on their patients who had died by suicide – these included details of physical and mental health problems reported in all consultations and treatment offered in the year before death, specifically the final consultation. GPs were also asked about their concerns for the patient, the factors contributing to death, suicide prevention, their experiences of the local mental health services specifically in the context of patients with suicidal ideation and self-harm. Data analysis was completed following the completion of all 39 interviews.

Ethical approval was granted by the North-west Research Ethics Committee (REC reference: 02/8/74) and individual R&D approvals were obtained from all the relevant Mental Health Trusts included in the study.

Thematic analysis

Thematic analysis was selected as an appropriate method for examining the interview data because it provided a way of 'getting close' to the interview material and developing a deeper appreciation of the content. The analysis was conducted by the primary researcher (PS), and by the secondary researcher (KC) who supervised PS. The main themes and codes of interest were determined by using the steps recommended by Braun and Clarke (2006): listening to interview recordings and reading each transcript several times to establish familiarity with the whole interview and generating descriptive codes to represent the main themes. The initial codes of interest were generated systematically across the entire data set and were then grouped into a set of emerging themes. Ongoing analysis refined the specifics and formulated the conceptual name of each theme. The final part of the analysis was the selection of the interview extracts, relating the analysis to the research question and literature. The process of refining and validating the findings was conducted through a collaborative exercise creating iterative feedback loops between the primary and secondary researcher. Further discussion between authors resulted in the identification of themes specifically relevant to the challenges GPs face when treating and managing suicidal patients.

Findings

General practitioners were the participants in this study and interviews were the principal means of data collection, but patient medical records and secondary care data gave an additional insight into the characteristics of the people who had died and GP-patient consultation prior to death. In terms of patient characteristics, the median age was 44 years (33–56 years), 26 (67%) were male, 20 (51%) were unemployed/long-term sick, 23 (59%) were single, 17 (44%) were living alone, 12 (31%) were inpatients at the time of death, 5 (13%) died by suicide within 3 months of discharge from hospital, 30 (77%) had a history of self-harm, 27 (69%) had a history of substance misuse, 16 (41%) had recent adverse life events and 14 (36%) were non-adherent to medication. Seventeen (45%) patients had a primary diagnosis of

depression and/or anxiety, 4 (10%) schizophrenia, 3 (7%) bipolar disorder, 7 (18%) adjustment/personality disorder, 4 (10%) alcohol/drug dependency and 4 (10%) other disorders such as dementia or no mental health problems. In terms of the method used for suicide, 17 (44%) were by hanging, 13 (33%) by self-poisoning, 3 (7%) by jumping from a height or in front of a moving object, 1 (3%) by drowning, and 5 (13%) from other methods such as cutting, stabbing, firearms, suffocation, burning or electrocution.

All of the patients had consulted their GP at least once (range 1–21 consultations) in a year prior to death – over 30% had consulted more than eight times. Forty per cent of the patients saw a GP in the month prior to suicide and 92% within 6 months. Seventy per cent of the GPs interviewed knew the patient well and 21% of GPs reported that they were concerned for the patient's safety at their final consultation in primary care. The majority of these patients (88%) spoke of suicidal ideation at this final consultation.

Following the thematic analysis process, three inter-related themes were conceptualised as reflecting the corpus of this material. The themes illustrate the areas where GPs had difficulty managing and treating suicidal patients. The first theme related to varying interpretations of patients' suicidal talk or behaviour by GPs and was conceptualised as 'GPs' interpretations of suicide attempts or self-harm'. The second theme identified was 'Professional isolation' and relates to treatment availability (or lack of availability) for suicidal patients and the lack of support for GPs. The third theme 'GP responsibilities versus patient autonomy' related to the tension GPs experienced while respecting patient decision-making and attempting to fulfil their duty of care; particularly, when patients did not accept the treatment on offer. Each of these themes is developed below.

GPs' interpretations of suicide attempts or self-harm

General practitioners reported that the majority of patients communicated their suicidal ideas and intent either directly or indirectly to them prior to the act. These verbal and non-verbal expressions can be seen as 'proverbial red flags that call attention to others of the potential risk of more lethal suicidal behaviour' (Maris *et al.* 2000, p. 267) and therefore provided key opportunities for suicide prevention measures. Patient disclosure of suicide ideation is an important factor in preventing suicide. However, in this study, GPs often interpreted self-harm or suicidal ideation as attention seeking ('crying wolf') rather than a suicide attempt ('cry for help'), thus affecting the manage-

ment and treatment offered to patients. The following examples demonstrate the variation in GPs' interpretation and assessment of the patients who consulted prior to suicide:

Although we put her down as a moderate suicide risk, none of us thought she'd ever do it because she talked about it so much. (GP14)

General practitioners' perceptions of patients who spoke of dying by suicide was that they would never follow this through suicide, perhaps based on the erroneous assumption that 'people who talk about suicide don't do it' (Ramsey *et al.* 2004 as cited in Owen *et al.* 2012). This seems puzzling as patients with suicidal ideation have been found to be at higher risk of suicide (Appleby *et al.* 2012). However, suicide is extremely difficult to predict (Kapur 2000) and is one of the most difficult clinical tasks GPs face.

And he'd done this on numerous occasions. Taken overdoses, not as a suicidal attempt but in an attention seeking, in a mental distress, help me cry for help ... even though he'd had a self-harming history, there was never a disorder. (GP22)

Patients presenting in primary care following numerous overdoses provided potential opportunities for GPs to assess a patient's treatment needs. Some GPs perceived overdosing or other self-harming behaviours as attention seeking and interpreted these behaviours as less worrying than a suicide attempt, thus influencing the treatment offered to aid recovery. Although repeat self-harm is a key predictor for suicide (Appleby *et al.* 2012), some GPs did not perceive previous self-harm as high risk for completed suicide, particularly where there was no mental health diagnosis. Several factors complicate the interpretation of these communications as, despite the increased risk, the majority of people who have self-harmed do not go on to die by suicide (Gunnell *et al.* 2004).

This is a chap who when he did eventually become suicidal slashed his wrists ... he also jumped out of an upstairs window and had a ruptured spleen. So, two previous serious attempts at suicide and was an inpatient for part of that time and at my prompting, the psychiatrist readmitted him before he was on day or weekend leave from the acute psychiatric ward when he committed suicide in quite a planned way. (GP13)

Even when motives were interpreted as being a 'genuine' suicide attempt, GPs faced difficulties as they were not always in a position to ensure patients got the care that they needed. This GP initiated the inpatient admission and was very concerned for the

patient's safety following his suicide attempt. He took the action required while the patient was under his care; however, the GP had no involvement regarding the patient's agreed leave. This illustrates the exclusion of GPs in secondary mental healthcare decision-making and the lack of communication between services. The next theme develops this further and highlights that some of the issues relating to GPs' decision-making and assessments may also be related to service availability rather than patient needs.

Professional isolation

Caring for suicidal patients is demanding, involving intensities of emotional labour, moral dilemmas and repeated losses (Gunaratnam 2011). A GP's role involves acting as a gatekeeper or advocate, particularly when referring patients to community mental health teams (CMHTs). GP decision-making was influenced by what were perceived as rigid criteria set by CMHTs and the lack of mental health resources available to them. From accounts provided by GPs, it appeared that CMHTs set extremely high thresholds for treating suicidal patients, possibly as a way to ration services:

Even if we refer to the CMHT, the patient may not get what the GP asked for if they do not agree ... we need help with patients who are depressed, especially ones who are not making progress on medication ... rapid access needs to be improved for patients GPs are concerned about as it seems unless the patients are in shops buying a machete they're not taken seriously. (GP39)

Repeatedly, GPs were left acting as go-betweens for mental health services and patients with the tension of explaining to patients that interventions were unavailable due to resource constraints. Policy guidelines for suicide prevention (DH 2012) state that GPs should be able to access extra support from CMHTs when required; however, this is not always possible as CMHTs often decline to assess some patients unless they are actively suicidal or they are self-referred. Difficulties were reported by GPs whose patients had depression and were not improving under medication – these referrals were often returned. They reported being frustrated about the lack of access to interventions for patients who preferred specific treatment options that should have been available to them. Subsequently, GPs were left to manage these patients alone in primary care and reported professional isolation:

Because the patient did not attend his last psychiatric appointment, the psychiatrist discharged him and sent a letter to us stating this. I did not agree with this decision. This

is what the psychiatrist wrote: 'I am now discharging him from services and I cannot be held responsible for Mr X's misdoings and lack of responsibility towards his psychological problems'. (GP35)

General practitioners said they were disappointed that patients could be discharged without their involvement, particularly as many of these patients usually required more intervention and follow-up, but subsequently became lost in the system. GPs also reported being lost in a 'referral maze' due to the removal of mental health staff from GP surgeries and less contact with psychiatrists. They reported that they required more support from qualified mental health professionals when managing suicidal patients and suggested that patients presenting with suicidal behaviour needed to be seen by a specialist within 2 weeks as per recommendations for patients with physical health problems. GPs reported that more should be done to ensure mental health treatments were as accessible as treatments for physical health problems. The significant inequalities that continue to exist between physical and mental healthcare have an impact on the number of preventable premature deaths and lower treatment rates for mental health conditions (DH 2010). Similar to previous findings (Saini *et al.* 2010), GPs reported an underfunding of mental healthcare and said they faced obstacles and delays in the implementation of treatment plans for patients which were out of their control. Long-term treatments were rarely available, and short-term solutions, such as crisis teams, 12-week counselling sessions or graduate mental health workers were used by GPs to manage patients to the best of their ability. Numerous GPs reported being left to manage patients alone in primary care and questioned the removal of community psychiatric nurses (CPNs) from GP practices:

I think it's about time that people turn around and say maybe we should have CPN[s] within the surgeries, and they should have always been in the surgeries. The reason why GPs want CPNs in the surgery is because they want support not only for patients but also for themselves. At the end of the day, I am not a psychiatrist, I'm just a GP and I see things and try to do the best I can. (GP24)

In the past, GPs received guidance and advice immediately from psychiatrists and CPNs when concerned about a patient's safety, whereas now they reported that the process could take much longer and leave them feeling professionally isolated. GPs said they were no longer involved in the referral process and were more disengaged from patients' secondary care treatment. There was a negative view about these changes and GPs reported feeling despondent

about mental health professionals appearing not to share responsibility of patients at risk of suicide. Barriers seemed to have formed in their professional relationships:

We need a faster response with CMHTs that are left around and better follow-up. We do not refer much as a practice. We are very dissatisfied with the service provided. The CMHT do not listen even when there is an urgent referral and I think we need better communication as sometimes we feel like we have to manipulate the system just to get a patient assessed ... we therefore refer to hospital A&E services for 'on the day' referral as patients will get seen and assessed on the day and they do follow-up as their referrals go to the CMHT. (GP35)

In our study, the majority of GPs reported being aggrieved by the response of mental health services and highlighted their lack of confidence when referring patients who may not be accepted for mental health treatment. In a minority of practices, the relationship between GPs and secondary care was more positive. However, this was more prominent in larger practices where there was regular contact and communication between the services:

The monthly meetings we have with CPNs are very valuable indeed and it helps monitor everybody they're seeing and add anybody else who we have remembered, so that's good. (GP14)

GP responsibilities versus patient autonomy

While GPs have a duty to preserve life, they also have to respect patient autonomy (a patient's right to make decisions about their own treatment). This is an extremely complex area, and the tension between patient autonomy and preserving life complicates the relationship between the health professional and the suicidal patient (David *et al.* 2010, Kapur *et al.* 2010). One dilemma is whether patients should have the right to take their own lives. However, this is clearly not only a GP's dilemma but also one that society as a whole needs to consider. The reason we highlight this tension here is because it often appeared as GP frustration in the interview material and was frequently represented as lack of adherence ('lack of adherence' defined as a failure to take medication or other treatment as prescribed or failure to attend follow-up appointments). Reframing adherence issues in terms of patient autonomy allows for a more complex understanding of GPs' interpretations of patient decision-making. To understand patient autonomy and decision-making, we have schematised key treatment areas where patient autonomy is exercised. Lack of adherence to treatment was frequently influenced by

a lack of service availability, mirroring findings from the previous section.

Medication

Patients exercised autonomy by declining medication as sometimes it was unacceptable to them or they felt that it was not making a discernible difference. In these instances, GPs reported that patients may have preferred other interventions such as counselling or psychotherapy; however, access to these services was limited as waiting lists were up to 18 months long. GPs therefore ended up offering medication as the only available treatment for relieving patients' mental health symptoms:

There are no facilities and it is hard to tell patients about the long waiting lists and I feel that patients are not being taken seriously and that they feel that way too. (GP38)

General practitioners perceived that some patients were specifically declining medication, but were more open to other treatments for mental health issues. The previous quote highlights the lack of choice for patients in primary care which conflicts with the right of patients to make decisions about their medical care. In this context, the only 'choice' patients have is to accept medication to treat their mental health needs/suicide ideation or receive no treatment at all. GPs expressed frustration that patient treatments were not necessarily based on a patient's personal needs or circumstances, but more on which services were available – or unavailable.

Lack of appropriate hospital beds

He was offered admission but was put on a medical ward because there were no beds in the psychiatric ward. He declined the offer to transfer hospital and they could not section him because he was thought not to be actively suicidal and had no plans to self-harm. (GP21)

The patient in the quote above was offered admission to a hospital further away but refused treatment and while this can be seen as an exercise of choice and agency, we cannot be sure that he would have made the same choice if a bed had been available in a local hospital. The lack of availability of local services may have contributed to his decision-making process and his right to exercise autonomy was clearly in conflict with the professional's 'duty of care' to provide care and treatment. One aspect of the GP's dilemma is whether in such cases, compulsory admission may have been more appropriate, but this too is problematic in the context of patient autonomy because of the stigma and lack of choice associated with it.

Missing appointments

General practitioner interviews highlighted the following reasons for why patients missed appointments: first, an active decision not to attend; second, unwell patients sometimes found it difficult to remember to come to appointments; and third, some patients missed appointments for administrative reasons. For example, in some services, patients were expected to phone primary mental health workers to book their appointment for an assessment – if they did not call they were not necessarily followed up and were often categorised as having missed their appointment and referred back to GPs. Fourth, some patients simply did not want to leave their house or were unable to do so for clinical reasons (for example, they were agoraphobic and/or intoxicated). There may be important differences between people missing appointments because they did not want help and those who were keen to seek healthcare but struggled to obtain it or to follow advice. GPs were often left in a predicament to understand the reasons for why a patient missed appointments and how to attend to the needs of such patients.

Patients not attending their appointments for mental health treatment were reported as a cause for concern and in tension with GPs' duty of care:

He was very hard to pin down and was also drug abusing ... He was at risk because he was a poor attendee and he was on depot injections for schizophrenia, but very often it was hard for the CPN to make contact with him, as a lot of the time he was a no show and failed to attend despite the efforts. (GP28)

In our study, numerous GPs reported that they were left in a dilemma when responding to non-attendance; particularly, when the decision not to attend may have been an active one. These patients were often more vulnerable and in need of additional support. GPs recounted being left frustrated and helpless as they were unable to fulfil their professional responsibility. The relationship between GPs and patients, and the responsibilities that existed by virtue of those relationships were particularly important to consider as GPs' professional commitments to care for the patient may have been in conflict with patient autonomy. In this context, autonomy was not merely relational but based on obligation and responsibility.

Clear intent to die

Some patients discussed openly and honestly with their GP that they wanted to die by suicide and GPs' responses continued to show support and management of the patients to the best of their ability:

When I met him, he was absolutely determined he was going to do it [die by suicide] ... he was one of those people where I was sure he was going to do it and I don't think there was any way round it, I mean that's a bit negative, but he was on high doses of antidepressants which he chose not to take at times. (GP12)

Although some patients did not want any treatment and were intent on taking their own lives, GPs still provided interventions to alleviate patients' symptoms despite their perception that the patient may ultimately die by suicide. GPs fulfilled their duty of care while respecting patient autonomy, for example, when patients chose not to take their medication.

This section highlights how patient autonomy can be context dependent (e.g. on availability of counselling or hospital beds) and cause tension for GPs managing patients at risk of suicide. GPs faced a challenge when implementing treatment management plans as the balance of benefits and risks is such that what is acceptable to one patient may be rejected by another. Therefore, the choice of treatment should be based on the patient's values or preferences, but this was often not the case and was sometimes out of the GP's control. However, of note is that some patients had treatment plans in place and support systems available to them but still took their own lives despite a range of interventions offered. This implies that autonomy is not necessarily related to the number of options available to patients but more related to the individual context of their personal situation.

Discussion

Our data illustrate the very real struggles experienced by GPs in their attempts to make sense of patient communication of suicidality, to get patients the treatment they need and to respect patient autonomy while fulfilling their professional responsibilities. GPs varied in their views, deeming self-harm or suicidal ideation as attention seeking or 'crying wolf' in some cases but interpreting similar behaviour as a suicide attempt or 'cry for help' in others.

The interview material indicated how GPs were compromised when providing treatment interventions for patients at risk of suicide. The systematic barriers in the implementation of specific mental health treatments impacted upon the delivery of nationally recommended evidence-based treatments (Coulter & Collins 2011). GPs in this study frequently highlighted the lack of access to specialist staff and this barrier hampered collaborative working relationships. There are examples of joint working and

formal collaborative care between primary care and CMHTs (Chew-Graham *et al.* 2007), but we found little evidence for these in our study. Many patients were left under the management of primary care while specialist treatment interventions were sought. Where good relations with mental health teams existed, they were valued, both for easing the referral process and for facilitating further support to address a patient's treatment needs. Importantly, the interview material highlighted the need for better support for GPs managing suicidal patients to reduce their professional isolation.

In the context of patient autonomy, GPs were compromised, as treatments normally comprised medications which were acceptable to some patients but rejected by others, and this was usually out of the GP's control, as were the lack of alternatives to medication. In the healthcare context, understanding autonomy placed an additional responsibility on GPs and an obligation to be diligent and skilful in ascertaining the extent to which choices were autonomous. A professional duty of care demands that one goes beyond respect for autonomy in favour of acknowledging other ethical principles when the context demands it. To consider the meaning of a patient's expressed wish to die, the principles of respect for autonomy and capacity need to be taken into account. It is important for GPs to ask why a request is being made, to examine patients' coping styles, to try to understand the expressive nature of the wish, and consider these in the person's situational and developmental context. Therefore, it appears that a model of autonomy based on freedom to choose does not always meet the requirements of care as articulated by GPs.

The findings of the present study must be interpreted in the context of a number of strengths and limitations. The GPs recruited to the study were a selected group of individuals who had experienced the suicide of a patient who had also been under the care of mental health services. Very little is known about the interaction that GPs have with patients who go on to take their own lives and this study provides findings that contribute to this gap in research. Those who participated might also differ in important ways from those who did not. However, most GPs who were approached to take part in the study did so (82%). Our findings may not be representative of the rest of the United Kingdom, although many of the issues we identified are likely to apply across services. It should also be noted that some of our data are now several years old. This is partly a reflection of the time it takes for a coroner's verdict to be finalised and the added ethical and practical complexities

of carrying out interview-based studies following a suicide death. Consequently, some of the study findings might not necessarily reflect current clinical practice. It should also be noted that the study is based on people who had contact with mental health services in the year prior to suicide; however, 75% of people who die by suicide have not had this contact before their death (Appleby *et al.* 2013). Of course, we could have collected retrospective data on people who died by suicide in the general population, but this would not have allowed us to explore the interaction between primary care and secondary care prior to death which was one of our main aims.

Despite its limitations, our study is one of the few that has taken the direct perspective of primary care providers in relation to consultations prior to a patient's death by suicide. We achieved a reasonable sample size and good response rate. Health and social care policies aim to promote good clinical practice through the assessment and management of patients at risk (NICE 2004, Morgan 2007, Gilbert *et al.* 2011, DH 2012). Our study adds to existing work and provides valuable new data to inform suicide prevention in primary care. The implications of this research for suicide prevention policy and practice in primary care are highlighted in the following four issues. First, we suggest that there may be benefits in increasing GP awareness of suicide-related issues and improving training and risk assessment skills to ensure patients receive the care that they need. Second, the study highlights the importance of removing barriers to help patients access the therapies and treatments they need in primary care and produce better patient outcomes. Third, it also raises the importance of improving liaison and collaborative working relationships between services to provide GPs with support so that they are not left feeling professionally isolated and managing suicidal patients alone. Lastly, it is clear that GPs have a difficult balancing act when trying to treat suicidal patients who do not want to be treated. To develop more patient-centred care, it is essential to attempt to understand and accommodate patient treatment preferences. This includes understanding why a patient may decline treatment within their situational context. This may help to reduce the tension between patient autonomy and GPs' professional duty of care, contributing to a more patient-centred way of working.

Future work should focus on the barriers to the recognition of risk and provision of care, and build upon the benefits of collaborative care. The treatment of people who have suicidal ideas or behaviour is clearly not just a GP's responsibility but is an issue

that health services more generally, suicide prevention policies, and society as a whole need to contemplate.

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5. Discussion

This mixed methods study aimed to investigate primary care consultation in a sample of patients who had contact with mental health services in the year prior to suicide and to explore GP views and perceptions on the management of these patients prior to their death. Secondary care data, data from coroners' files, and primary care data were collected using questionnaires and semi-structured interviews with consenting GPs of the deceased patients. In this chapter, I will consider the findings in relation to each of my research questions, how they fit into the wider research and policy literature, and the reasons for any differences with previous studies. Then, I will evaluate the strengths and limitations of my study as a whole, consider the clinical implications of the work and identify directions for future work.

5.1 Findings in relation to each research question and in the context of previous work

5.1.1 What is the consultation behaviour and what are the characteristics of patients who visit primary care prior to suicide?

The sample for this study was restricted to people who had contact with mental health services. The majority of patients were seen by a GP on at least one occasion in the year before death (91%). The average rate of attendance for this time period was high (median = 7; IQR = 3-10) compared to the average consultation in the primary care populations (median = 5, IQR = 5-6) (Hippisley-Cox and Vinogradova, 2009). Two-thirds of the patients who consulted were male, 24% were aged under 35 years. The primary reason for the final consultation recorded in the notes was psychological symptoms – with or without physical health reasons. There were high rates of GP contact for patients diagnosed with depression, anxiety and alcohol misuse and lower rates for schizophrenia.

A lower rate of attendance among younger people (median = 42 years, IQR 33-53 years) was observed in this study compared to older patients. Patients living with a spouse or partner consulted more frequently than patients living with their parents or single parents living with their children. Gender differences were not reported for patients who consulted prior to suicide. For a fifth of the sample at least one consultation had been as a result of a previous act of self-harm or a suicide attempt. GPs reported higher rates of patient suicidal ideation at final consultation in the interviews than was written in the medical notes. One out of four GPs reported concerns about their patient's safety, but less thought that the suicide could have been prevented. Where GPs reported concerns, the patient was significantly more likely to have had their final consultation within the month before death. For these patients GPs reported contacting

mental health services to discuss and refer their patients for further assessment or treatment. In most of the cases, patients were assessed and some were admitted to hospital, however some were not acted on by mental health services or patients.

Recent contact with patients (within a year of death) who go on to die by suicide is still relatively rare for GPs (Hamid *et al*, 2008; NCISH 2014, Matthews *et al*, 1994). For example, it has been estimated that, ‘In an average list size of 1000 it will take 8 years of consultations before a GP will consult a patient who will shortly thereafter commit suicide’ (MacDonald, 1992, p.574). Therefore, how much power GPs do in fact have (or not have) to prevent suicide remains to be determined (Freedenthal, 2003). In this study however, the mean number of GP consultations in the year before death was higher than previously reported for those diagnosed with organic disorders/dementia, depressive illness/anxiety disorders and suicidal ideation. It was also higher than rates of consultation in a previous study of individuals with and without psychiatric histories who died by suicide (NCISH 2014; Rodi *et al*, 2010; Power *et al*, 1997). Additionally, the number of people consulting with a GP in the year before suicide was higher than in some general population samples (range from 57% to 90%) (Luoma *et al*, 2002; Rodi *et al*, 2010; Matthews *et al*, 1994). In terms of consultation in the month and week before suicide the figures found in this research are similar to previous studies of those not under the care of secondary mental health services (NCISH, 2014; Vassilas *et al*, 1993; Matthews *et al*, 1994).

The high rates of GP contact for patients diagnosed with depression, anxiety and alcohol misuse is in line with previous research (NCISH, 2014). The lower rates of GP contact for those diagnosed with schizophrenia observed in this study may reflect the fact that mental health

services take a more active role in providing treatment for this group or, alternatively, that such individuals are reluctant to seek health care. Previous studies have reported similar findings for lower rates of attendance in younger patients (NCISH 2014; Luoma *et al*, 2002). A recent qualitative study found that many young adults held negative views about GPs as a source of support for mental health problems (Biddle *et al*, 2006).

Suicidal intent was communicated and evident in medical notes more frequently than previously reported (Hamdi *et al*, 2008; Isometsa *et al*, 1995, Diekstra *et al*, 1989, Matthews *et al*, 1994). GPs reported higher rates of patient suicidal intent than was written in the medical notes for final consultation data. This was similar to previous interview studies conducted in primary care (Isometsa *et al*, 1995, Diekstra *et al*, 1989). Some GPs recognised suicidal ideation in patients who consulted but recognition in itself may be insufficient if it is not followed up by suitable interventions. Others did not perceive that the display or communication of suicidal behaviour would result in their patient dying by suicide and thus an opportunity to intervene may have been missed. Some of these findings are well recognised and others are less established. This study highlighted the lack of consistency in GPs interpretation of suicidal intent and in the management of patients who consulted with suicidal ideation.

Forty-eight per cent of patients had a diagnosis of depression and/or anxiety and the majority of those were being treated with psychotropic medication or were offered medication at their final consultation. GPs reported that for some patients treating depression with medication can be effective but for others can have potentially negative consequences. Consistent with previous findings these included stigma of taking psychotropic medication, side effects leading to non-

adherence or discontinuation, negative views of the healthcare system causing a lack of trust with health professionals and non-attendance, undermining of patient autonomy and difficult management situations for GPs (Crawford *et al*, 2014; Aldridge 2011; Hyde *et al*, 2005). According to NICE guidelines (NICE 2009a), when patients present with mild to moderate psychiatric symptoms, GPs should not prescribe psychotropic medication before offering patients psychological ‘talking’ therapies (DH 2009). Yet the findings of this study indicated that GPs sometimes had no other options but to offer medication or refer patients to specialist mental health services due to the lack of access to psychological therapies.

5.1.2 How do GPs assess and manage suicidal risk in patients who consult in primary care?

This study is the first to our knowledge to compare assessments of risk and characteristics of patients treated by both primary and secondary care in the year prior to suicide. Many patients had been rated as at low risk of suicide in both primary and secondary care prior to death. However, the level of agreement with respect to risk assessment in primary and secondary care was poor. In primary care, factors such as depression, care setting (post discharge), suicidal ideation at last contact with primary care and primary care consultation following self-harm were associated with GPs being concerned about their patient. GPs were most likely to be concerned about patients who had consulted for psychological reasons and these patients were more likely to have been referred to specialist services. In secondary care factors such as care setting (post discharge), having suicidal ideas at last contact with secondary care; and a history of self-harm were associated with a rating of high or moderate risk. There were few policies in primary care to guide practice and a discernible lack of training on suicidal behaviour and risk.

In this study many patients had a history of non-fatal suicidal behaviour and some GPs reported patients expressing suicidal ideation during the final consultation. However, only a minority of GPs expressed concerns regarding their patient's safety. This may reflect the retrospective nature of the study, the actual (low) risk at the time of assessment, or an underestimation of risk. The assessment of risk is challenging and previous research has raised concerns about the lack of risk assessment for suicide in primary care settings (Schulberg *et al*, 2004; Bryan *et al*, 2009). There were potentially important differences in the risk assigned to patients in primary and secondary care prior to their death. Poor communication and a lack of consistency in the management of patients between care settings could account for these findings. This is similar to other study findings (Morriss, Kapur and Byng, 2013; Gilbert, Adams and Buckingham, 2011).

5.1.3 How do GPs manage non-adherence to treatment or medication for patients who die by suicide?

An important finding was that all the patients who were non-adherent to treatment consulted with a GP in the year prior to suicide, the majority consulted three or more times, giving primary care a potential opportunity to intervene. Multiple self-harm incidents, serious suicide attempts and/or suicide ideation was present in many patients' consultations in the year prior to suicide. Our findings suggest non-adherence to treatment is a common feature of patients who consulted frequently, had a dual or comorbid diagnosis, were socially isolated or agoraphobic and those who had chaotic lifestyles.

GPs reported three main reasons for patient non-adherence to treatment: lack of insight into their illness, medication side effects and multiple psychiatric diagnoses. GPs reported the dilemma they faced when managing patients who were convinced that their health issues were physical and not related to their mental health despite having undergone the relevant physical health checks. GPs recognised that some patients found the side effects of psychotropic medications intolerable but felt that treatment choice was often compromised due to the lack of resources, lack of access to services or lack of support from mental health professionals. GP frustration was more evident for patients with multiple psychiatric disorders where appropriate services were not available to meet individual patient needs. GPs reported that some patient suicide deaths may have been prevented had these services been available. GPs raised their concerns about vulnerable patients who missed appointments not being followed-up as a result of being unable to attend appointments and being left alone to fend for themselves or solely under the management of primary care. Again, these issues were heightened in patients with multiple mental health diagnoses.

Our findings were consistent with previous studies with respect to the potential role of alcohol and drug misuse, distressing side effects, chaotic lifestyles, comorbid disorders and dual diagnosis in patients who were non-adherent to treatment (Hawton *et al*, 2005; Goff *et al*, 2010; Tacchi & Scott, 2005; Novick *et al*, 2010; Higashi *et al*, 2013; Hong *et al*, 2011). However, most of the previous studies focussed on non-adherence in mental health more widely and not just in relation to suicide. Patients with dual diagnosis can be more difficult to engage in services as some services refuse to see patients if they are intoxicated, patients missed appointments due to being intoxicated and some patients did not take prescribed medication alongside drug or

alcohol use (Higashi *et al*, 2013). Previous research has reported the benefit of patient involvement in their treatment with health professionals in order to reduce non-adherence to medication (Aldridge, 2011). Strengthening services for comorbidity and dual diagnosis may improve the engagement of young patients with primary and secondary care and could contribute to suicide prevention (Magura, 2008; Magura *et al*, 2008).

Another challenge faced by GPs was for patients who appeared to accept treatment offered in primary care (so the GPs did not intervene) but later were non-adherent. In these consultations, patients may be behaving as they feel they are expected to behave in front of the GP (thus accepting the treatment offered) but what the patient did following the consultation was out of the GPs control. This issue further highlights the need of ongoing monitoring and assessment of patients who may vulnerable and at risk of suicide. It is essential to understand and accommodate patient treatment preferences that are essential to understand and accommodate patient treatment preferences that are relevant to their individual health issues. This includes understanding why patients may decline treatment within their situational context and monitoring whether patients are following their agreed treatment regime as this may lead to improved patient care.

5.1.4 What services are available to GPs in primary care for patients who may be at risk of suicide?

The key themes that emerged from GP interviews were lack of access to mental health services, problems referring patients to these services and working with the changing remit of mental health services. Perhaps unsurprisingly, GPs who were most positive about secondary care mental health services had easy access and good relations with their local mental health services.

In these areas GPs reported good communication and liaison between primary care and mental health professionals. Dissatisfied GPs repeatedly stated that they felt services were better when CPNs and psychiatrists were more accessible and reported being unsupported when these services were removed. GPs appeared cautious in some cases about referring patients to mental health specialists due to their perceptions of negative outcomes for these individuals, (e.g. patients not being assessed despite a GP referral) and by a lack of access to treatment options (e.g. psychological services) due to long waiting lists. GPs reported having to manage patients with a range of mental health problems including those with serious mental illness, even though CMHTs had been introduced to treat this patient group. Many GPs reported that they had not received formal training for mental health problems generally and for the prevention of self-harm and suicidal ideation specifically.

An interesting finding was that many of the barriers for accessing services were not specific to suicide prevention, although addressing them could have a positive impact for potentially reducing suicide risk among patients who consult GPs prior to suicide (DH, 2012). Together the findings are of interest to those who plan and provide support services for GPs. They also reflect GPs lack of training in dealing with significant events early in their career and being more professionally isolated than has previously been identified (Halligan and Cocoran, 2001).

5.1.5 What are GPs' perspectives and views on managing suicidal patients in primary care?

These data illustrate the very real struggles experienced by GPs in their attempts to (i) make sense of patient communication of self-harm, suicidal ideation and intent; (ii) get patients the

treatment they needed; and (iii) respect patient autonomy whilst fulfilling their professional responsibilities. GPs varied, deeming self-harm or suicidal ideation as attention seeking or ‘crying wolf’ in some cases but interpreting similar behaviour as a suicide attempt or ‘cry for help’ in others. This highlighted the difficulties GPs had in predicting the outcome of patients’ suicide talk or self-harming acts. The interview material indicated how GPs were compromised when providing treatment interventions for patients at risk of suicide as many patients were left under the management of primary care whilst specific treatment interventions were sought. GPs frequently spoke of the lack of access to specialist staff and how this barrier hampered collaborative working relationships. Where good relations with mental health teams existed, it was valued, both for easing the referral process and for facilitating further support to a patients’ treatment needs. Importantly, the interview material highlights the need to support GPs more adequately with suicidal patients in order to reduce their professional isolation. In the context of patient autonomy, how GPs managed patients was sometimes compromised, as treatments normally comprised medications which were acceptable to some patients but rejected by others, and this was usually out of the GP’s control, as were the lack of alternatives to medication.

The systematic barriers in the implementation of specific mental health treatments impacted upon the delivery of nationally recommended evidence-based treatments (Coulter & Collins 2011). Joint working and formal collaborative care between primary care and CMHTs have been described in the literature (Chew-Graham *et al.* 2007) but we found little evidence for this in our study. In the healthcare context, understanding autonomy placed an additional responsibility on GPs and an obligation to be diligent and skilful in ascertaining the extent to which choices are autonomous. A professional duty of care demands that one goes beyond respect for autonomy in

favour of acknowledging other ethical principles when the context demands it. Therefore it appears that a model of autonomy based on freedom to choose does not always meet the requirements of care as articulated by GPs.

5.2 Strengths and limitations

5.2.1 Sampling

The sample size was reasonably large compared to many studies of suicide and we did manage to recruit a high number of professional participants for the interviews (61%, n=206 [GP interviews: 59%, n=198; GP practice manager interviews: 2%, n=8]) of the total sample of patient suicides (n=335). Previous qualitative studies have collected data on between 16 to 139 GP interviews with regards to suicide in primary care (Vannoy and Robins, 2011; Vassilas and Morgan, 1993; Kendall and Wiles, 2010; Bajaj *et al*, 2008; Draper *et al*, 2008).

With regard to sampling, a number of points are noteworthy. Only records for patients who were seen by the mental health services in the year prior to death were sampled, so the results may not reflect the information on records for patients who do not have contact with mental health services prior to suicide. This was a deliberate decision in the design phase of this study as one of our main aims was to examine how primary care and specialist services managed ‘at risk’ patients and communicated. This would not have been possible in a general population or primary care sample. Additionally, the sample had no comparison group of those who did not die by suicide, which means that it is difficult to draw firm aetiological conclusions from our data. This sample included suicides aged 18 years and over, so the results may not be applicable to adolescent suicide deaths. However, we did include a wide age range (18 to 95 years).

Ethnicity was recorded on 98% of the inquiry questionnaires. However, only 5% of patients were recorded as being from ethnicity minority populations compared to 95% from white populations. In this sample that equates to 17 out of 336 cases and therefore an extremely large sample size would be required to produce comparable groups for statistical analyses as underpowered statistical analyses are susceptible to Type 2 errors.

This study was carried out in GP practices across the North-West of England. Therefore care must be taken when attempting to generalise these findings to GP practices in other geographical regions. This region is reported to have the highest rate of suicides in the UK (ONS, 2014) which may have influenced the study findings when comparing to regions where the suicide rate is much lower. The higher rates of suicide may be reflective of the health inequalities reported by the Public Health England [PHE] report (PHE, 2013). Across the North-West of England these inequalities are evident in more deprived socio-economic environments (jobs, housing, education, transport); unhealthier lifestyle choices (diet, smoking, alcohol consumption, social networks); less access to effective health and social care (services that result in health benefits); and, reduced health outcomes (increased mortality, morbidity, ill-health, disability). The life expectancy across this region is lower compared to that of most of England.

The GPs recruited to the study were a selected group of individuals who had experienced the suicide of a patient who was under the care of mental health services. Such individuals may have different views from GPs who have never experienced a patient suicide or who have experienced the death of a patient by suicide not under the care of specialist services. Those who participated might also differ in important ways from those who did not participate. A systematic comparison

of both groups was not possible due to no informed consent to collect data on participants who refused or were unavailable to take part in the study, thus making it difficult to comment on potential biases. However our study contained large absolute numbers (higher than previous studies) and similar key issues were consistently raised by our participants. For future work, it would be interesting to interview GPs for patients who do not have contact with mental health services and/or primary care services prior to death.

Additionally, this study cannot offer any insight regarding continuity of care for patients who move between GP practices, where arrangements for patients may differ. However, we collected data and interviewed a variety of GPs of different ages, gender and from a range of urban-rural practices of different sizes.

5.2.2 Response bias

Confidence can be drawn from the large number of patient records sampled in this study comprising 87% (291/336) of those eligible for inclusion. This was largely due to the assistance of local coroner offices, PCTs and GP practices and the availability of electronic record systems in most of the participating sites. Whilst such assistance was gratefully received, some GPs would have been aware of the purpose of the study in advance of the interviews; it is possible that this could have influenced the interview content. However, this would not have affected the data collection from the coroner files or medical case notes.

Out of area suicides occur for approximately 12% of individuals who may travel away from their residence, possibly to suicide ‘hotspots’ (Windfuhr *et al*, 2010). In these cases, the coroner files

may not be accessible to the investigating team as they will be held in the coroner office closest to the place of death. In this study, this was not the case as all of the suicide deaths were within the North-west region where all the files were available from the coroner offices who agreed to participate in the study.

The response rate for GP interview data was 68% of those for whom we had access to case records (198/291). An additional 8 (3%) interviews were conducted with GP practice managers about service structure where GPs were unavailable as the GP had retired or died (8/291). The remaining GPs declined to be interviewed, often citing pressures of time, although it is possible that some may have been concerned about their assessment of suicidal risk. This may have introduced a selection bias. However, where we were able to compare the baseline characteristics of those for whom we did and did not have case record data and for those for whom we did and did not have GP interview data there were no differences between the groups.

5.2.3 Recall bias

This was a retrospective study and interviews may have been subject to recall bias. Recall bias or ‘search after meaning’ (Grimes and Schulz, 2002) may be introduced by clinicians, an issue which is difficult to control for. For example, in considering consultations that have occurred prior to suicide, clinicians may not be aware of adverse personal circumstances or may deliberately withhold negative aspects of the deceased’s treatment causing a potential of under-reporting. Equally, consultation data may be over-reported because of the clinician’s personal judgement or perception of the patient’s health care prior to suicide (Heikkinen *et al*, 1993). Information gathered can therefore be prone to reliability issues and recall bias was unavoidable

for many reasons. One reason was the time it takes (sometimes more than one year) for the Coroner to reach a verdict in cases where an inquest is held. A further time delay exists between a patient's death and the completion of suicide questionnaires by mental health professionals because of coding of the death and adding it to the mortality database by the Office for National Statistics and the time it takes for the Confidential Inquiry process. However, data for Inquiry questionnaires was often based on patient mental health case notes (which were completed contemporaneously). In addition the data were completed by the clinical teams who cared for the patient. This could have helped to improve the quality of information or alternatively it is feasible that clinicians may have sought to downplay risks with 'defensive reporting'.

Similar issues may have applied to the primary care data. This gap between the death and the interview (approximately two years) could have affected the accuracy of the GPs' recall of events. However, this is unlikely to have significantly impacted upon the medical records data that were available to all GPs interviewed. In addition, it is not known whether GPs glossed over any information that might have suggested that their management had not been optimal. This research was uncontrolled, so we do not know whether the last contacts were different from other GP contacts on any parameters which limit the conclusions that can be drawn from the results.

5.2.4 Missing data points

Clinical records from secondary mental health teams were available for the entire sample and primary care medical records were available for 86% of the sample. However, the records only captured entries made in clinical records; unrecorded clinical activity or entries made outside these records would have been missed. For the purposes of this study, only the presence of each

factor within patient clinical records was recorded on data collection forms. Therefore, there was no distinction between no record of an event in the clinical record and ‘missing’ data for coroner, secondary and primary care data. It is possible this strategy may have led to underestimation of treatment data and other clinical events (e.g. psychiatric assessment, risk assessment). In primary care, data were sometimes added from GP interviews, thus reducing the number of missing data points that may have existed from medical records alone.

5.2.5 Coding

Three researchers completed retrospective primary care case note reviews, GP interviews and the data was coded by different members of the research team. However, I conducted the majority of the data collection and coding myself (76% of primary care case note reviews, and 81% of GP interviews) and steps were also taken to ensure researchers were retrieving relevant information by comparing responses. Specifically, to ensure that all researchers were completing questionnaires and interviews similarly, 114 (68%) cases were validated by another member of the research team and there was agreement in 112 (98%) cases. Regular team meetings were held to review the interview content in order to add further questions that had derived from new information retrieved from previous GP interviews. For example, the lack of psychological services and communication between primary and secondary care services became recurrent themes early on and were pursued further in future interviews.

5.2.6 Age of data

It should also be noted that some of our data are now several years old. As a consequence some of the study findings might not necessarily reflect current clinical practice. For example, IAPT

was introduced following most of the patient suicides and GP interviews included in this study. This study pre-dated many of these changes and so there may be benefit in repeating the study in the new service context.

5.2.7 Service user involvement

We examined case notes and interviewed health professionals of people who had died by suicide. While such studies can yield valuable information they are missing the ‘voice of the service user’. In studies of suicide and suicide behaviour, one potential avenue is the so-called psychological autopsy approach where relatives or others are interviewed to build up a detailed picture of the antecedents of suicide and the experiences of the deceased in the time leading up to death. However, in this study we were particularly interested in service contact and service responses. Another potential approach is to recruit people who have engaged in suicidal behaviour and self-harm but have survived. Patients who have the experience of self-harm incidents, suicide attempts or suicidal ideation might have offered a different perspective on patient consultation behaviours, adherence to treatment, treatment options, assessment of risk, and the management by health professionals following suicidal behaviour. Valuable information can be obtained about the way in which services are delivered and made accessible to patients through the accounts of service users experiences (Hunter *et al*, 2012). This knowledge could impact the efforts to improve the quality of healthcare services for patients who may be vulnerable to suicide. Both psychological autopsy methods and interviews with patients who had self-harmed would have enhanced the service user perspective but these approaches were out of the scope of the present study. Of course, they could be used in future research.

5.2.8 Mixed methods study

In this study, mixed methods were used to collate data. This arguably provides a useful contribution in an area of clinical importance in which there has been little published research and it benefits from a number of strengths. Previously, the available evidence has been based on mostly quantitative studies about patient consultation rates in primary care prior to suicide and the training of GPs for suicide prevention. There have also been a few qualitative studies on these topics in primary care. An advantage of using mixed methods is that problems can be examined from multiple angles and studies simultaneously. For example, it would be inaccurate to assume that high rates of patient consultation in primary care prior to suicide reflected the fact that all patients had similar management and interactions with GPs. The treatment of patients with suicidal behaviour in primary care is an area involving complex patient groups with high rates of comorbidity, substance misuse and social deprivation; thus, it is especially challenging to isolate and measure the impact of independent variables and a more inclusive, less reductionist research paradigm may be more helpful.

However, whilst previous qualitative studies have the advantage of generating rich data on participant experiences, in doing so they necessarily focus on GP self-report. By using retrospective case notes and GP interview data, this mixed methods study was able to evidence and quantify characteristics and contextual consultation behaviours for patients who visited primary care prior to suicide. These study findings adds to the relatively sparse field of research on the assessment and treatment practices and access to services within mental healthcare for patients at risk of suicide. The thematic approach used for interview data allowed a detailed, yet

accessible, exploration of the treatment of suicidal patient in primary care, revealing areas of consistency and divergence between GP perspectives.

Disadvantages and limitations to the mixed methods approach may contribute to the research design being complex and can take much more time and resources to plan and implement. It may be difficult to plan and implement one method by drawing on the findings of another and may be unclear to resolve discrepancies that arise in the interpretation of the findings. Different analytical approaches may have also yielded alternative interpretations of the data.

5.3 Implications for clinical practice and future research.

In the following section, clinical implications of the research are discussed for each of the main stages of the patient pathway through primary care: GP consultation(s); recognition of suicidal risk factors; risk assessment; treatment in primary care; referral to mental health services (Figure 7). Subsequently, overarching themes are discussed, relevant to the entire pathway.

Figure 7: Summary of patient pathway



The focus of this study was the role of primary care in suicide prevention for patients who have had recent contact with secondary care (in the year prior to their death). Most individuals continued to consult with their GP in the year before death, some on a frequent basis, and some shortly before their death. Thus, this presents an additional opportunity for prevention. However suicide prevention in primary care is a challenging task. The following sections will highlight the areas where future suicide prevention efforts in general practice might be focussed.

5.3.1 Flagging system for electronic case notes

The findings from this study are consistent with previous research (NCISH 2014; Rodi *et al*, 2010; Luoma *et al*, 2002) and highlight the potential utility of an aid in primary care to identify patients who are frequent attenders (e.g. a flagging system). As primary care consultation information is recorded electronically, a flagging system could be installed for GPs to use. This could lead to ongoing monitoring of patients who attend regularly, particularly those who present with suicidal risk factors. Alerts of this kind are used in other areas of primary care (Stein, 2002) and may be beneficial especially when patients consult with different GPs in larger practices and there is a lack of continuity of care.

A similar flagging system could alert GPs to suicide risk in patients receiving two or more psychotropic drugs, particularly combinations such as benzodiazepines and antidepressants, as previous research has highlighted this to be a marker of suicide risk (NCISH 2014). Any data about previous self-harm, suicide ideation and suicide attempts could also be added to the system. This should include information received from EDs if patients have attended for suicidal behaviours. Therefore, markers of risk in those attending include frequent consultation, multiple

psychotropic drugs, specific drug combinations such as benzodiazepines with antidepressants, history of self-harm, suicidal ideation and recent suicide attempts. These markers could be the basis of a “flag” alert in primary care records, leading to regular monitoring, further assessment and follow up. The few GPs, who used a similar system, highlighted how beneficial they were for ongoing monitoring.

Additionally, these flagging systems should be accessible to mental health services, social services and EDs in order to inform primary care of patients who require regular monitoring and/or ongoing assessments in primary consultations. This system could provide more clarity for the GP on which professional has the role and responsibility of following up patients after they present with suicidal behaviours, which will be in line with the current health policy recommendations for suicide prevention (DH 2012). A flagging system would give GPs the opportunity to follow up patients in consultations or contact patients who have not consulted within a specific time frame and it will also inform them of a patient’s risk status from the data inputted by mental health professionals. Sharing information across health services will help to ensure that the quality and safety of services is consistent across the country and could contribute to this flagging/case identification approach. It may also highlight different diseases and conditions that may require more NHS investment. The ‘care data programme’ will give an opportunity for everyone to help the NHS provide high quality care for all (DH 2014).

However, clear guidelines would need to be made available to health and social work professionals and further training would be required to ensure these are implemented in the most efficient and effective way. Recently, NHS England has heard from GPs, professional bodies and

patient groups that more needs to be done to ensure that patients and the public have a clear understanding of NHS England's intention to use patient data held by GP practices for purposes beyond direct health care. Greater assurances are required on issues such as patients' right to object, protecting privacy, the burden on GPs, and the controls around how data held by the Health and Social Care Information Centre (HSCIC) will be accessed and used.

5.3.2 Training and education for risk assessments

In the evaluation of risk assessment procedures, our findings suggest that both the content and mechanics of risk assessments vary between and within primary and secondary care. Risk assessments were rarely completed by GPs for patients who died by suicide in the consultation prior to death and there seemed to be no formal documentation or mechanism for risk assessments being completed except for notes in the medical records that suggested one was completed e.g. 'suicidal ideation'. Notably, there were differences in the training of GPs in risk assessments for suicidal behaviours between practices and local variation in procedures. If individual practices have developed systems that better support continuity and equivalence of care for patients who may be at suicide risk, this may be a cause for optimism, and fuller exploration of such local strategies is warranted to determine whether these ostensibly successful practices can be replicated elsewhere. For example, some services have better recording of risk management, are incorporating a flagging system and hold regular multidisciplinary meetings.

Recent research has also highlighted the need to improve medical student education in suicide prevention, including diagnostic interviewing skills, and has found both students and GPs to be supportive of a suicide-prevention curriculum (Lake 2008a & 2008b; Hawgood *et al*, 2008).

However, evidence for the efficacy of educational initiatives in the prevention of suicide has been mixed (Mann *et al*, 2005; Beautris *et al*, 2007). The data from this study suggest that GPs do take into account a number of important factors when assessing risk; however there may be benefit in increasing GP awareness of suicide-related issues and improving training and risk assessment skills to ensure patients receive the care that they need. Current training and education courses need to be re-evaluated to ensure consistency in the assessment and management of patients displaying suicidal behaviours across care services. In particular, our findings imply the importance of further training for GPs on the interpretation of suicidal behaviours that patients may present with in primary care consultations. Future programs should also aim to improve the quality and consistency of information collected in risk assessments and emphasise specific procedures for health and social care professionals to follow after these have been completed.

Continued research on the assessments of risk in primary care is vital in identifying specific indicators of the at-risk individual. Clearly there is a need to conduct further large case-control studies to better understand the relationship between suicidal risk factors, including aspects of clinical care received by primary care and mental health services, and suicide. For example, among patients who consult with GPs, there needs to be further knowledge of the risk factors that: 1) lead to patients consulting less or more frequently; 2) affect the communication of suicidal behaviours that lead to risk assessments being completed by GPs; 3) contribute to non-adherence to treatment; 4) may have influenced a patient such as life events. Additionally, patients presenting with risk factors of suicide usually had multifaceted health and social issues that GPs may find difficult to manage alone. Where individuals are in contact with social

services, social workers may be involved in helping individuals with any social issues. However, adult social care budgets have been decimated and many social issues such as poverty or unemployment cannot be tackled by social workers. For those not in contact with services for social issues, an individual's family or social network will most likely be their source of support for social issues. For isolated patients who have no contact with friends or family, GPs may be their only source of support for both health and social issues. GPs therefore need to work alongside mental health teams, social services, patient's families and the patient (where possible) in order to gain the best health outcomes. However, risk assessment has limitations – particularly with respect to predicting future behaviour – and national guidance also emphasises the importance of assessing needs and translating assessment into individualised management plans (NICE 2011a).

5.3.3 Improving access to specialist services

This study highlights the importance of removing barriers in order to help GPs gain access to treatments for the healthcare that patients need in order to produce better health outcomes and reduce mortality by suicide. Two specific barriers were evident in this study: 1) lack of access to treatments or services (e.g. psychotherapy, dual diagnosis services) and 2) patients not wanting or using the treatment offered or recommended to them by health professionals (e.g. GPs, psychiatrists, mental health workers).

The qualitative aspect of this study highlighted the potential role of collaborative care for overcoming these barriers and improving the management of suicidal patients. There seemed to be a 'one size fits all' criteria system that did not meet the requirements of the GP who was

referring patients or the patients who may have wanted treatment from a specific service they could not access. Thus, primary and secondary mental healthcare teams may wish to consider how treatment decisions are made and communicated between services in regular multidisciplinary meetings, or other known effective methods. Additionally, in this study a high number of suicidal patients had a comorbid diagnosis, quite often dual diagnosis and a history of abuse or self-harm. Future guidelines should therefore also include more joint working between social services, non-governmental organisations [NGOs] in the women's sector for issues relating to abuse, prison services, housing, mental health services and primary care. This may help to improve the quality, consistency and timeliness of information provided to health professionals and patients.

5.3.4 Integrated services in primary care

Communication skills have long been considered an important part of training in general practice (RCGP, 1972). If, as the UK Government intends, shared decision making is to become the norm in primary care (DH, 2012), the management of suicidal patients in primary care may need to have more timely and transparent communications about treatment availability for patients. In order to guarantee continuity of care for these individuals, effective systems must be in place to communicate decisions about treatment options between healthcare professionals based in secondary care and their colleagues in the community; otherwise, important information may be lost during transitions. If healthcare services were able to enhance communication and information sharing within their locality, this could have the potential to improve the continuity of care at critical times for vulnerable individuals who consult in primary care. The findings of this study indicate that integrated services involving better communication and collaborative care

between health and social care services may benefit patients at risk of suicide, particularly those with multifaceted health and social issues.

In addition, in light of the views on suicide prevention expressed by some GPs in this study it may be advantageous to develop strategies to improve multidisciplinary working and communication between secondary mental health services and primary care. GPs professional isolation could also be reduced by strengthening communication and liaison links between care services. For example, standards have been agreed within the NHS contract to reduce the length of time taken for hospitals to provide discharge summaries to GPs – from April 2010, summaries are required to be provided within 24 hours of discharge (Carlisle 2009). Evidence suggests that the collaborative care model has been effective in improving patient outcomes, particularly for depression (Dowrick *et al*, 2009; Gunn *et al*, 2010; Gask *et al*, 2010; Richards *et al*, 2006). The impact of any such initiatives on suicide rates and suicidal behaviour should be carefully assessed in order to inform future prevention strategies.

5.3.5 Changes in clinical practice

Changes in clinical practice are possible as the traditional approaches to mental health problems are heavily focussed on ‘medical models’. Some of these, including the use of diagnosis that assume that symptoms are the consequence of biological illnesses, are being challenged along with the reliance on medication for treatment. Environmental, social and psychological factors are recognised as being more important than previously thought (Kinderman 2014). There have been scientific advances in understanding human psychology that suggests the traditional ‘disease-model’ thinking about mental health is flawed, and far-reaching changes are required in

how services are commissioned and planned. The present approach to helping people in acute emotional distress is thought to be severely hampered by old-fashioned and unscientific ideas about the nature and origins of mental health problems and vulnerable people suffer as a result of inappropriate treatment, for example antidepressants rather than psychotherapy (Parker *et al*, 2014; Wiles *et al*, 2014). However, GPs in this study suggested that the reason for the increased prescribing of antidepressants was due to the lack of resources and access to psychotherapy. A new ‘manifesto’ for mental health and well-being (DH, 2014) has been recommended that includes that services should be based on the premise that the origins of distress are largely social and that ‘diagnoses’ should be replaced with straightforward descriptions of problems.

The shift away from the ‘disease-model’ was supported by these study findings as some GPs reflected on the tensions they encountered with patients who had chaotic lifestyles that involved social issues that impacted on a person’s health and behaviour. The recommendation of reducing the use of medication, and using it pragmatically rather than presenting it as the only ‘treatment’ could be beneficial as long as alternative interventions based on psychological or social rationales and provided perhaps through psychology and residential services are available. Such reforms may provide more support for GPs who are currently managing a group of patients solely in primary care that do not fit the remit of mental health services. This approach would result in a fundamental shift from a medical to a more psychosocial focus. GPs would also require further training in mental health care in more psychosocial approaches rather than relying on the medical psychiatry model alone.

Future initiatives are therefore required between Clinical Commissioning Groups (CCGs), patients, carers and universities in order to provide data and develop knowledge of the issues to inform policy and benefit individuals who may be at risk of suicide. CCGs now have more say over primary care resources and so could commission talking therapies at primary care level as this was a major gap in service provision in this study. Additionally CCGs may help in developing methods to learn about the contributory factors and health inequalities that may impact on individuals who are vulnerable to suicide. This will then provide an opportunity to inform and influence public health policy to improve the health of individuals at higher risk of suicide. Such initiatives will provide an opportunity to strengthen relationships between NHS partners, social care providers, community based groups, voluntary organisations, service users and the wider public. Knowledge exchange between the services will help to establish research programmes that examine health promotion opportunities around suicide prevention within communities and primary care. These may aid in reducing health inequalities that may influence suicidal behaviour such as social isolation.

5.3.6 Implications for future research

Death by suicide in the UK, particularly in the North-west of England is a serious public health problem. This study highlighted the lack of consistency in training of GPs and the management of suicidal patients across the region. The importance of gaining information about the treatment and management of suicidal behaviour in primary care from patient perspectives is emphasised. The findings of this study provide evidence that will help to develop and shape initiatives and projects within the UK, and will help to move this important work into the public domain. Including people who have experienced suicidal behaviour themselves or through their families

will enable connections and introductions between groups and individuals who can work together to use the invaluable information. Previous research has mostly been retrospective after patients have died by suicide and therefore accounts of their lives have been given by lay persons and/or health professionals or have included patients attending emergency departments following self-harm or suicide attempts.

However, this study shows the potential value of the mixed methods in investigating factors associated with suicide in patients in primary care. By obtaining GP views on the management of patients, data can be provided on the treatment path from primary into specialist mental health care. The findings have demonstrated that suicide among patients who have been in recent contact with mental health services and usually primary care is associated with a number of clinical and behavioural factors. However, the mechanisms through which these factors lead to suicide are unclear. It may be that conducting a case-control mixed methods approach would complement this study's methodology and potentially give us a better idea of the management and treatment of individuals in the year leading to suicide, an important element in designing prevention strategies. Due to the sensitive nature of suicide, case-control mixed method studies investigating suicide are practically difficult to carry out, especially at a national level, and are prone to reliability issues due to the collection of data retrospectively.

The knowledge of risk factors for suicide among patients who consult in primary care in the year prior to death may also lead to the development of interventions to prevent suicide. The gold standard to test any intervention is a randomised controlled trial (RCT). This is a prospective experiment where investigators randomly assign a sample of patients to one or more treatment

groups, or to a control group, and the effects of the intervention are compared. However, the principal problem in carrying out an RCT at an individual level is the very low base rate of suicide – there would have to be thousands of people in each intervention category in order to see an effect on such a rare outcome as suicide. An alternative would be ‘before and after’ studies assessing the impact of service level interventions on suicide rates.

Among the most practical and efficient of study designs would be a large case-control mixed methods studies in order to compare the consultation data for patients who were in contact with mental health services and those who were not in contact with mental health services. This would provide an opportunity to make comparisons between the groups and would highlight the differences, if any, in the context of patient consultations in primary care prior to suicide.

However, due to the reasons previously reported such studies are unlikely to be ethically sound or gain the sample size required for accurate statistical analyses. Therefore different techniques may be required to understand the management and treatment of individuals who may be at risk of suicide. Large primary care databases could play a possible role in future research such as the CPRD, The Health Improvement Network [THIN], and new data linkage services such as ‘care data’ (NHS report 2015) and the Suicide Information Database Cymru [SID-Cymru] (John *et al*, 2014). These could potentially be excellent tools for research as they will provide linked data from health and social care services and will eventually cover all care settings, both in and outside of hospital. This will aid in increasing knowledge about primary care consultations for patients who do and do not have contact with mental health services prior to suicide. It would also be beneficial and interesting to repeat the study following the introduction of IAPT as

numerous GPs reported the lack of support and accessibility from psychological services.

Examining the effects of the implementation of IAPT through knowledge exchange between stakeholders would be beneficial for ensuring that the recently introduced service is meeting the needs to patients, health practitioners and policy makers.

The Department of Health (DH 2014) is committed to the prevention of suicide in UK. Suicide prevention has been identified as one of the top priority areas and the main aims are to make mental illness services more effective and accessible, improve follow up, reduce health inequalities and improve patients health outcomes, particularly for those most vulnerable. Knowledge exchange and implementation programmes are required to allow interactions between stakeholders, which will include consulting and collaborating with people with lived experiences of suicidal ideation and /or suicidal behaviours. A sharing approach to creating knowledge is important for improving health outcomes and health care systems. This approach to knowledge exchange, would therefore involve the active engagement of all stakeholders and knowledge users, including policy makers, researchers, mental health workers, general practitioners, carers, and service users (see figure 8). This collaboration would implement an integrated knowledge exchange plan and support specific elements within the suicide prevention initiative and directly involve each of these stakeholder groups in developing, and implementing its findings in order to promote suicide prevention, and collaborating with partners in reducing suicide-related deaths in UK. By acknowledging the unique contributions of all stakeholders and improving ways for individuals and groups across the UK to share and access valuable knowledge about suicide prevention, opportunities may be created for individuals and groups across the UK to come together and work in a concerted and meaningful way to exchange

knowledge and bring about action that improves important facets of mental health and suicidal behaviour.

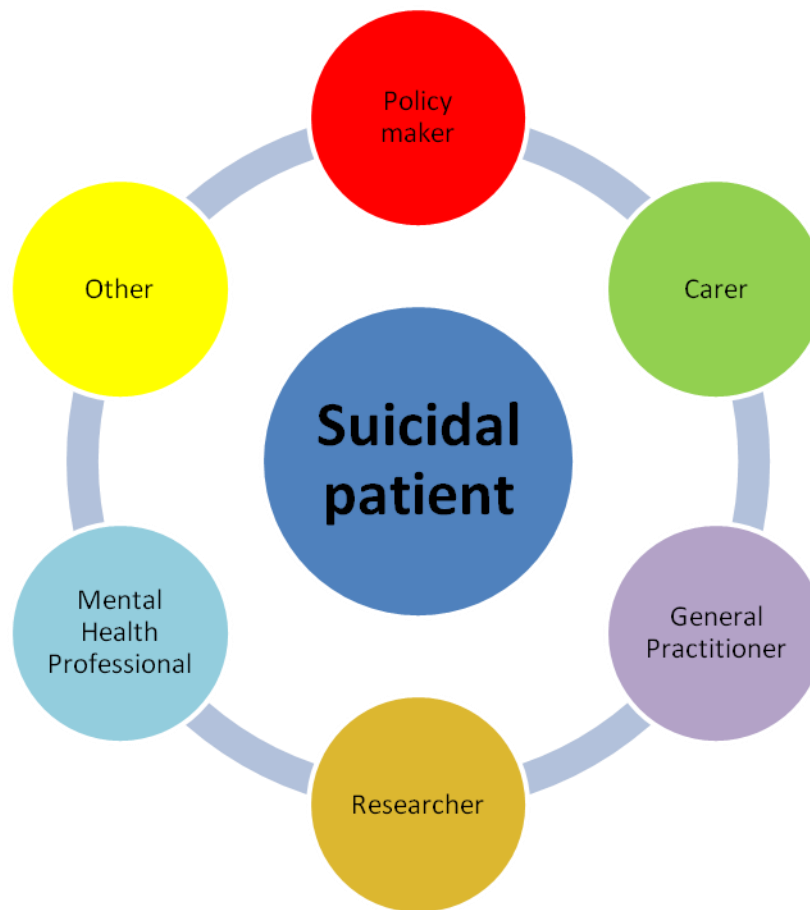
5.3.7 Conclusion

Future work should focus on the barriers to the recognition of risk and provision of care, and build upon the benefits of knowledge exchange and collaborative care. The treatment of people who have suicidal ideas or behaviour is clearly not just a GP's responsibility but is an issue that health services more generally, suicide prevention policies, and society as a whole need to contemplate. Whilst this study has succeeded in yielding some initial, exploratory findings, further work is necessary to explore the trajectory of treatment decisions over time and to further unpick clinical, demographic and situational influences on treatment outcomes.

The implications of this research for policy and practice for future suicide prevention strategies in general practice include introducing an automated flagging system to provide markers of risk for GPs in patient consultations. Better non-medical facilities for patients who may be vulnerable in the community and who do not consult with GPs could help particularly in socially deprived areas. Communication and information sharing within a GPs locality might be enhanced in order to improve the continuity of care at critical times for vulnerable individuals who consult in primary care. Improvements in GP awareness of suicide-related issues and training in risk assessment skills should be increased to ensure patients receive the care that they need. Information collected in risk assessments should be of high quality and lead directly to individualised management plans. Strategies could be developed to improve multidisciplinary working and communication between secondary mental health services and primary care. There

should be implementation of clear guidelines for health professionals to follow which include more joint working with social services, NGOs, carers, prison services, housing, mental health services and primary care.

Figure 8: Stakeholders involved in health care knowledge exchange and implementation



A common language and consistency is required between the staff involved in patient's treatment management plans in order to develop better health outcomes. This may provide clarity on patient treatment preferences that are clinically relevant and the evidence for more resources to be placed into improving accessibility to specialist services, including psychological services, dual diagnosis and services for comorbid diagnosis and patients who may be at risk of suicide.

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APPENDICES

| | |
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| Appendix A: | Mental Health Questionnaire |
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Appendix A: Mental Health Questionnaire

See:

http://www.bbmh.manchester.ac.uk/cmhr/research/centreforsuicideprevention/nci/sample_questionnaires/ew_sui_q.pdf

Appendix B: Coroner Proforma

**The National Confidential Inquiry into Suicide and Homicide by
People with Mental Illness**

Suicides in Contact with Mental Health Services

Coroner Pro-forma

CASE ID:

CORONER'S VERDICT: **SUICIDE** **OPEN VERDICT**

DATE:

RESEARCHER NAME:

Section A: Demographics

1. Gender

1=M

0=F

2. Date of Birth

| | | | | | | |
|--|--|--|--|--|--|--|
| | | | | | | |
|--|--|--|--|--|--|--|

3. Date of Death

| | | | | | | |
|--|--|--|--|--|--|--|
| | | | | | | |
|--|--|--|--|--|--|--|

4. What was their civil status at the time of the incident?

1=Single

2=Married/Cohabiting

3=Divorced/Separated

4=Widowed

5. What was the highest level of qualification achieved by the deceased?

1=No Formal Qualifications

2=CSE's/O'Levels/GCSE's

3=A'Levels

4=Vocational Qualifications

5=Higher Education

6=Other, please state

99=Not Known

| | |
|--|--|
| | |
|--|--|

| |
|--|
| |
|--|

6. What was their occupation at the time of the incident?

1=Manual Worker

2=Skilled Worker

3=Professional

4=Unemployed

5=Housewife/husband

6=Long Term Sick

7=Full-time Student

8=Retired

9=Other, please state

99=Not Known

| | |
|--|--|
| | |
|--|--|

| |
|--|
| |
|--|

7. What type of accommodation did they live in?

1=Owner occupied

2=Rented (Private)

3=Rented (Council/HA)

| | |
|--|--|
| | |
|--|--|

- 4=Residential Home
- 5=Hostel
- 6=Homeless
- 7=Other, please state
- 99=Not Known

8. What were their living circumstances?

- 1=Alone
- 2=With Spouse/Partner
- 3=With Parents
- 4=With Children (only)
- 5=With Others
- 99=Not Known

9. Ethnic Origin

- 1=White
- 2=Mixed
- 3=Indian
- 4=Pakistani/ Bangladeshi
- 5=Black Caribbean
- 6=Black African
- 7=Chinese
- 8=Other, please specify
- 99=Not Known

10. Religion

- 1=Christian
- 2=Jewish
- 3=Buddhist
- 4=Muslim
- 5=Hindu
- 6=Sikh
- 7=No Religion
- 8=Other Religion, please specify
- 9=Religion not stated
- 99=Not Known

Section B: Witness Statement Information

11. Witness 1: Relationship to the deceased:

1=Partner

5=Father

2=Friend

6=Sister

3=Grandparent

7=Brother

4=Mother

8=Other, please specify

Details from Witness Statement 1:

NA

Witness Statement 1 Continued:

A large, empty rectangular box with a thin black border, intended for a witness statement. The box is oriented vertically and occupies most of the page's width and height.

12. Witness 2: Relationship to the deceased:

1=Partner

2=Friend

3=Grandparent

4=Mother

5=Father

6=Sister

7=Brother

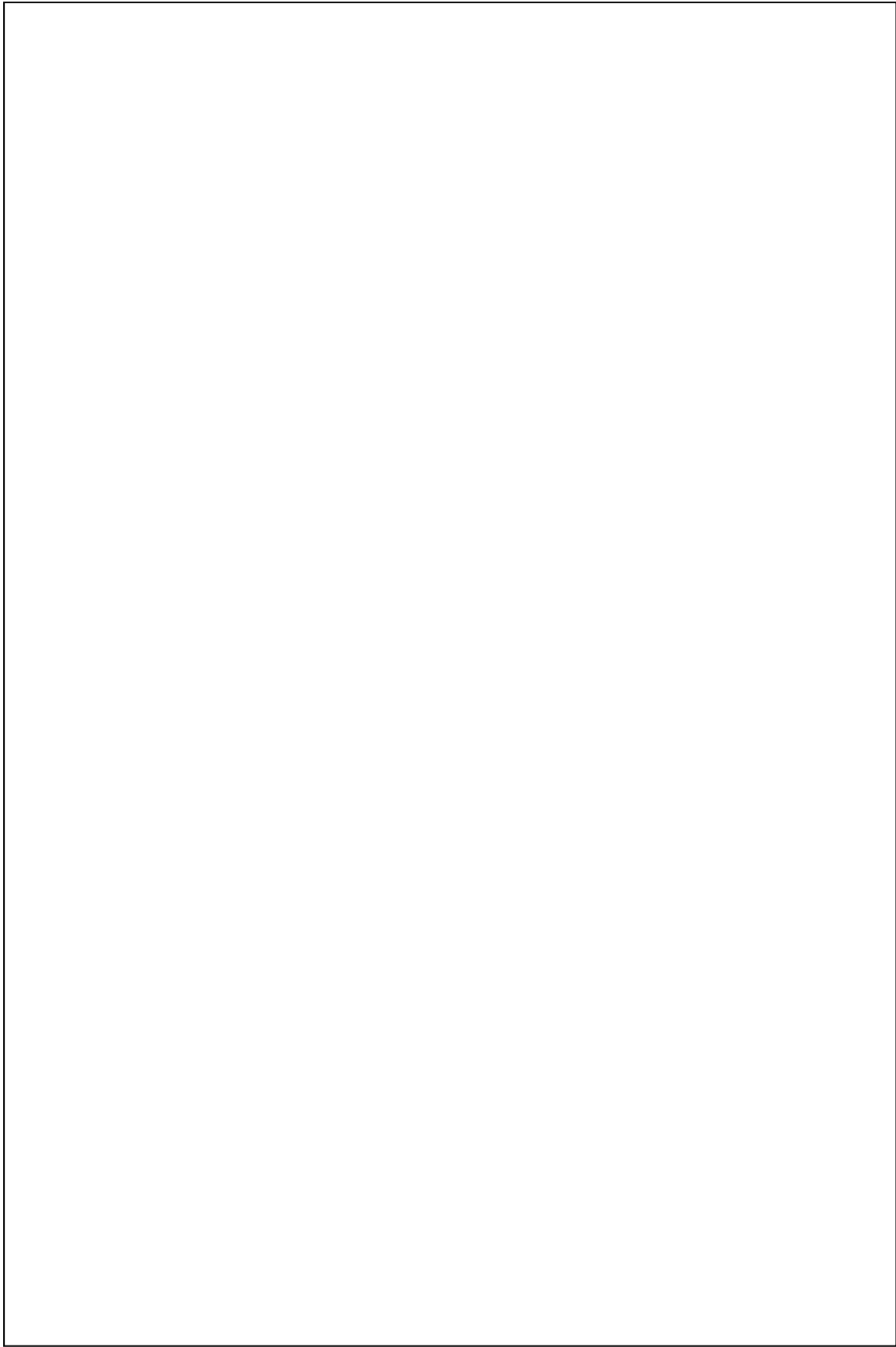
8=Other, please specify

Details from Witness Statement 2:

NA

13. Details from Police Statement(s):

NA



14: Details from Medical Reports/Statements:

NA

15. How did the deceased die?

16. Where did the incident occur?

17. Did they die in the same location or somewhere else at a later time?

1=Same Location

2=Somewhere Else

99=Not Known

| | |
|--|--|
| | |
|--|--|

a) If somewhere else, please specify:

NA

18. Was anyone else present at the time of the incident?

1=Yes

0=No

99=Not Known

| | |
|--|--|
| | |
|--|--|

a) If yes, who?

- 1=Stranger/Passer by
- 2=Friend
- 3=Partner
- 4=Relative
- 5=Medical Professional
- 6=Colleague
- 7=Other, please specify
- 88=Not Applicable

19. Who discovered the death?

- 1=Stranger/Passer by
- 2=Friend
- 3=Partner
- 4=Relative
- 5=Medical Professional
- 6=Police
- 7=Colleague
- 8=Other, please specify
- 88=Not Applicable (if died in hospital)

a) If relative, please state which:

- | | | | |
|-----------|------------|------------------------|---|
| 1=Mother | 5=Daughter | 9=Cousin | <input type="checkbox"/> <input type="checkbox"/> |
| 2=Father | 6=Son | 10=Grandparent | |
| 3=Sister | 7=Aunt | 11=Other, please state | <input type="text"/> |
| 4=Brother | 8=Uncle | 88=Not Applicable | |

20. Had the deceased experienced any upsetting/distressing life events in the 12 months prior to the incident?

- 1=Yes
- 0=No
- 99=Not Known

a) If yes, please detail

NA

21. Had the deceased recently argued or fallen out with anybody?

- 1=Yes
- 0=No
- 99=Not Known

a) If yes, who with?

1=Partner

2=Relative, please specify

3=Friend

4=Colleague

5=Employer

6=Other, please specify

88=Not Applicable

b) If yes, please detail

NA

22. Had the deceased received any mail that may have caused distress?

1=Yes

0=No

99=Not Known

a) If yes, please detail

NA

23. Was the deceased experiencing financial difficulties?

1=Yes

0=No

99=Not Known

a) If yes, please detail

NA

24. Had the deceased expressed thoughts or feelings of suicidal ideation?

1=Yes

0=No
99=Not Known

a) If yes, for how long?

- 1=<3 months
- 2=3-12 months
- 3=>1-2 years
- 4=> 2 years
- 99=Not Known
- 88=Not Applicable

25. Did the deceased make anyone aware of their intentions?

- 1=Yes
- 0=No
- 99=Not known

a) If yes, who?

NA

26. Were there precautions against discovery or intervention?

- 1=Yes
- 0=No
- 99=Not Known

a) If yes, please detail

NA

27. Did the deceased give any reason(s) for wanting to die?

- 1=Yes
- 0=No
- 99=Not Known

a) If yes, please detail

NA

28. Had the deceased discussed with anyone what they were planning?

- 1=Yes
- 0=No
- 99=Not Known

a) If yes, please detail

NA

29. Did the deceased leave a suicide note?

1=Yes

0=No

99=Not Known

| | |
|--|--|
| | |
|--|--|

a) If yes, please provide brief details of its content

NA

30. Did the deceased put their affairs in order or give away any possessions?

1=Yes

0=No

99=Not Known

| | |
|--|--|
| | |
|--|--|

a) If yes, please detail

NA

Section D: History of the Deceased

31. Is there any evidence in the records of a history of alcohol misuse?

1=Yes

0=No

a) If yes, how long was this history of misuse?

1=<3 months of death

2=3-12 months of death

3=>1-2 years

4=>2 years

99=Not Known

88=Not Applicable

32. Had there been a recent increase in use?

1=Yes

0=No

99=Not Known

88=Not Applicable

33. Had they ever received any treatment for alcohol misuse?

1=Yes

0=No

99=Not Known

88=Not Applicable

a) If yes, please detail (type of treatment, dates)

NA

34. Had the deceased ever overdosed on alcohol?

1=Yes

0=No

99=Not Known

a) If yes, please detail (include whether intentional or accidental)

NA

35. Is there any evidence in the records of a history of illegal drug misuse?

1=Yes

0=No

a) If yes, how long was this history of misuse?

1=<3 months of death

2=3-12 months of death

3=>1-2 years

4=>2 years

99=Not Known

88=Not Applicable

b) If yes, what substances?

1.

2.

3.

4.

5.

6.

36. Had there been a recent increase in use?

1=Yes

0=No

99=Not Known

88=Not Applicable

37. Had they ever received any treatment for illegal drug misuse?

1=Yes

0=No

99=Not Known

88=Not Applicable

a) If yes, please detail (type of treatment, dates)

NA

38. Had the deceased ever overdosed on illegal drugs?

1=Yes

0=No

99=Not Known

a) If yes, please detail (include whether intentional or accidental)

NA

39. Is there any evidence in the records of a history of prescription drug misuse?

1=Yes

0=No

a) If yes, how long was this history of misuse?

1=<3 months of death

2=3-12 months of death

3=>1-2 years

4=>2 years

99=Not Known

88=Not Applicable

b) If yes, what substances?

1. 2. 3. NA

4. 5. 6.

40. Had there been a recent increase in use?

1=Yes
0=No
99=Not Known
88=Not Applicable

41. Had they ever received any treatment for prescription drug misuse?

1=Yes
0=No
99=Not Known
88=Not Applicable

a) If yes, please detail (type of treatment, dates)

NA

42. Had the deceased ever overdosed on prescription drugs?

1=Yes
0=No
99=Not Known

a) If yes, please detail (include whether intentional or accidental)

NA

43. Does the deceased have a history of deliberate self-harm or suicide attempts?

1=Yes

0=No

99=Not Known

a) If yes, how long is the history?

1=<3 months of death

2=3-12 months of death

3=>1-2 years prior to death

4=>2 years prior to death

99=Not Known

88=Not Applicable

44. How frequent were these incidents of self-harm/suicide attempts?

1=Daily

2=Weekly

3=Fortnightly

4=Monthly

5=Less than monthly

6=No Pattern

7=Only one incident

99=Not Known

88=Not Applicable

45. What method(s) did the deceased use to attempt suicide or deliberately self-harm?

1.

2.

3.

NA

4.

5.

6.

46. When was the most recent suicide attempt/act of deliberate self-harm?

1=<3 months prior to death

2=3-12 months prior to death

3=>1-2 years prior to death

4=>2 years prior to death

99=Not Known

88=Not Applicable

47. Please provide details of the most recent suicide attempt/act of self-harm (method, treatment)

NA

48. Did anything seem to trigger a suicide attempt/act of self-harm?

1=Yes
0=No
99=Not Known
88=Not Applicable

a) If yes, please detail

NA

49. Have they ever received any treatment or support for suicide attempts/ DSH from anywhere?

1=Yes
0=No
99=Not Known
88=Not Applicable

a) If yes, please specify type of treatment

1=GP Treatment/Support
2=Psychological (Counselling, Clinical Psychologist)
3=Psychiatric (CPN, Psychiatrist)
4=Voluntary Support Agencies
5=Other, please specify
99=Not Known
88=Not Applicable

50. Were they receiving treatment for DSH at the time of their death?

1=Yes
0=No
99=Not Known
88=Not Applicable

Section F: Mental Health History

51. Please provide details of any mental illness diagnosis and treatment received by the deceased

a) Schizophrenia NA

(i) *Date of Diagnosis*

(ii) *Treatment (please tick)*

| | |
|---------------------------------|--|
| GP treatment | |
| Outpatient treatment | |
| Inpatient treatment | |
| Other treatment, please specify | |
| Not Known | |

b) Bipolar Affective Disorder NA

(i) *Date of Diagnosis*

(ii) *Treatment (please tick)*

| | |
|---------------------------------|--|
| GP treatment | |
| Outpatient treatment | |
| Inpatient treatment | |
| Other treatment, please specify | |
| Not Known | |

c) Depressive Illness NA

(i) *Date of Diagnosis*

(ii) *Treatment (please tick)*

| | |
|---------------------------------|--|
| GP treatment | |
| Outpatient treatment | |
| Inpatient treatment | |
| Other treatment, please specify | |
| Not Known | |

d) Anxiety/phobia/panic/obsessive compulsive disorder NA

(i) *Date of Diagnosis*

(ii) *Treatment (please tick)*

| | |
|---------------------------------|--|
| GP treatment | |
| Outpatient treatment | |
| Inpatient treatment | |
| Other treatment, please specify | |
| Not Known | |

e) Eating Disorder NA

(i) *Date of Diagnosis*

(ii) Treatment (please tick)

- GP treatment
- Outpatient treatment
- Inpatient treatment
- Other treatment, please specify
- Not Known

| |
|--------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

f) Dementia

NA

(i) Date of Diagnosis

| | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|

(ii) Treatment (please tick)

- GP treatment
- Outpatient treatment
- Inpatient treatment
- Other treatment, please specify
- Not Known

| |
|--------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

g) Alcohol dependence

NA

(i) Date of Diagnosis

| | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|

(ii) Treatment (please tick)

- GP treatment
- Outpatient treatment
- Inpatient treatment
- Other treatment, please specify
- Not Known

| |
|--------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

h) Drug Dependence

NA

(i) Date of Diagnosis

| | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|

(ii) Treatment (please tick)

- GP treatment
- Outpatient treatment
- Inpatient treatment
- Other treatment, please specify
- Not Known

| |
|--------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

i) Personality Disorder

NA

(i) Date of Diagnosis

| | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|

(ii) Treatment (please tick)

- GP treatment
- Outpatient treatment
- Inpatient treatment

| |
|--------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Other treatment, please specify
Not Known

j) Adjustment Disorder NA

(i) *Date of Diagnosis*

(ii) *Treatment (please tick)*

| | |
|---------------------------------|--------------------------|
| GP treatment | <input type="checkbox"/> |
| Outpatient treatment | <input type="checkbox"/> |
| Inpatient treatment | <input type="checkbox"/> |
| Other treatment, please specify | <input type="text"/> |
| Not Known | <input type="checkbox"/> |

k) Other, please specify NA

(i) *Date of Diagnosis*

(ii) *Treatment (please tick)*

| | |
|---------------------------------|--------------------------|
| GP treatment | <input type="checkbox"/> |
| Outpatient treatment | <input type="checkbox"/> |
| Inpatient treatment | <input type="checkbox"/> |
| Other treatment, please specify | <input type="text"/> |
| Not Known | <input type="checkbox"/> |

52. Was the deceased prescribed any medication at the time of the incident? 1=Yes

0=No
99=Not Known

a) If yes, please provide details (medication, dose) NA

53. Had there been any recent changes in medication?

1=Yes
0=No
99=Not Known
88=Not Applicable

a) If yes, please detail

NA

54. Please provide details of any previous medication(s) prescribed for mental health problems

NA

55. Is there any evidence that the patient was non-compliant with their medication in the 12 months leading up to their death?

1=Yes

0=No

88=Not Applicable

a) If yes, please detail

NA

56. If the deceased was admitted for inpatient care, when was the most recent hospital admission?

1=<1 month prior to death

2=1-3 months prior to death

3=>3-6 months prior to death

4=>6-12 months prior to death

5=>1-2 years prior to death

6=>2-5 years prior to death

7=>5 years prior to death

99=Not Known

88=Not Applicable

57. Did the deceased have contact with their GP in the 12 months leading up to their death?

1=Yes
0=No
99=Not Known

a) If yes, how long before their death was this contact?

1=<1 month prior to death
2=1-3 months prior to death
3=>3-6 months prior to death
4=>6-12 months prior to death
5=>1-2 years prior to death
6=>2-5 years prior to death
7=>5 years prior to death
99=Not Known
88=Not Applicable

b) If yes, what was the main reason for this contact?

1=Mainly Psychological
2=Mainly Physical
3=Both
4=Other, please specify
99=Not Known
88=Not Applicable

58. Was their GP aware of any suicidal thoughts?

1=Yes
0=No
99=Not Known

a) If yes, please detail

NA

59. Did the deceased inform any mental health professional of recent changes in mental health state?

1=Yes

0=No

99=Not Known

a) If yes, please specify

NA

60. Did the deceased inform any mental health professional of suicidal intentions or thoughts?

1=Yes

0=No

99=Not Known

a) If yes, please specify

NA

61. What member of the health profession did the deceased have their last contact with?

1=GP

2=CPN

3=Social Worker (psychiatric)

4=Ward Nurse (psychiatric)

5=Ward Nurse (general)

6=Junior Psychiatrist (on call)

7=Junior Psychiatrist (own MHT)

8=Consultant Psychiatrist

9=Other, please state

99=Not Known

Notes

Appendix C: GP letter

Date

Dear,

We are undertaking a study into the antecedents of suicide as part of the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness which is funded by NICE. Your patient:

Patient name:

is one of our cases, and as his General Practitioner, we would like to request your help in obtaining information about his medical history.

We are interested to establish the nature of the contact with general practice by individuals who have committed suicide and have been under the care of mental health services. We therefore want to consult the case notes and interview General Practitioners who have had a patient commit suicide in these circumstances about the care their patient received before their death.

We will therefore telephone you within the next two weeks to, answer any questions you may have about the research and discuss a future date when we might visit you to consult your case notes.

Please read the information sheet enclosed with this letter. We would like to stress that: the study has full ethical approval from the North West Multi-centre Research Ethics Committee, any information that you provide about the deceased is strictly confidential and accessible only to the lead researcher and research assistant carrying out the study, and that you, may terminate the interview and withdraw from the study at any stage.

If you are interested in the study but are concerned about what it might involve please do not hesitate to contact me at any time to discuss this further.

Please do not feel that there is any pressure to take part in this study and thank you for taking the time to read this letter.

Yours sincerely,

Mrs Pooja Saini MSc (Research Assistant)
Telephone – 0161 275 8147

APPENDIX D: GP information sheet

GENERAL PRACTITIONER INFORMATION SHEET

1. Study title

Liaison between Primary and Secondary Care Services in Suicide: A psychological autopsy study.

2. Invitation paragraph

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Thank you for reading this.

3. What is the purpose of the study?

The National Confidential Inquiry collects information on all people who commit suicide who have been in contact with Mental Health Services from the Mental Health teams Issues who treated them. We want to extend the Inquiry to gather information from general practitioners about the period leading up to the death.

4. Why have I been chosen?

We want to interview general practitioners of 50 people who have committed suicide.

5. Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given a copy of this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

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

If you decide to take part, our researcher will arrange to meet you at a time and place convenient to you and will then interview you, asking about events leading up to the death of your patient. The interview will cover issues to do with psychological symptoms, whether your patient recognised that they were ill, what help they received and significant events that preceded the suicide. The researcher will ask about your concerns and views. The interviewer will stop at any time you wish. We will need to tape the interview but will erase the tape at the end of the study.

7. What are the possible disadvantages and risks of taking part?

The possible disadvantage of taking part is that discussing events leading up to the death may be distressing for you. However, our researchers will be sensitive to your needs and will, of course, stop at any time.

8. What are the possible benefits of taking part?

We feel it is important for your views to be examined alongside the views of the mental health team to see whether lessons can be learned in order to make health services better in the future.

9. Will my taking part in this study be kept confidential?

The interview will be taped. It will then be typed up and all references to names removed. The tapes will be erased at the end of the study. All transcripts and tapes will be kept in a locked filing cabinet in a locked office. Only those people directly involved in analysing the data will have access to it. Any published paper or report using this information will be completely anonymous. Under no circumstances will any identifying information be released to anyone.

10. What will happen to the results of the research study?

The results of the study will be published in a report to the Department of Health for dissemination.

11. Who is organising and funding the research?

The research is funded by the Department of Health and conducted by the University of Manchester

12. Who has reviewed the study?

The study has been reviewed by the Northwest Multi-centre Research Ethics Committee.

13. Contact for Further Information

Thank you for considering to taking part in this study. For further information please contact Mrs Pooja Saini MSc (Tel: 0161 275 8147).
You will be given a copy of the information sheet and signed consent form to keep.

Appendix E: GP Consent form

Centre Number: NCI/AET/1
Study Number: AET1
Participant Identification Number for this Study:

CONSENT FORM

Title of Project: The Aetiology and Prevention of In-patient Suicides.

Name of Researcher:

Please initial box

1. I confirm that I have read and understand the letter dated /2008...
the above study and have had the opportunity to ask questions.

 for

2. I understand that my participation is voluntary and that I am free to withdraw at any
time, without giving any reason, without my medical care or legal rights being affected.

3. I understand that the interview will be recorded.

4. I agree that I may be quoted anonymously.

5. I agree to take part in the above study.

Name of Participant

Date

Signature

Researcher

Date

Signature

1 for Participant; 1 for researcher

Appendix F: GP Medical records questionnaire

**THE NATIONAL CONFIDENTIAL INQUIRY INTO SUICIDE AND
HOMICIDE BY PEOPLE WITH MENTAL ILLNESS**

**Study of Suicides in Contact with Mental Health Services.
(PASUI1)**

General Practitioner Medical Records Pro-forma/ Questionnaire

[Version: 2/2004]

CASE ID:

.....

DoD:

.....

GENERAL PRACTITIONER ID:

.....

DATE:

.....

RESEARCHER NAME:

.....

SECTION 1: GENERAL QUESTIONS

1. How long had the deceased been registered with their General Practitioner?

_____ Months _____ Years

2. Total number of contacts with General Practitioner in the 12 months preceding suicide. *(Please state number of consultations – face to face contacts)*

a) If there were contacts in the 12 months preceding the suicide, please provide brief details. *(Please state dates & brief reasons for consultations)*

b) If NO contacts in 12 months preceding suicide, what was the date of the last contact with the General Practitioner?

_____ Day _____ Month _____ Year

N/A

Only continue to complete Sections 1, 2, 3 & 4 if there has been contact with the GP in 12 months prior to suicide.

3. Were any of these contacts as a result of previous incidents of deliberate self harm or suicide attempts?

Yes No N/K

a) If yes, how many? N/A

b) Date of most recent contacts. Day Month Year N/A

c) Method used to deliberately self harm or attempt suicide in most recent of these contacts. *(If more than one, please give direct cause)*

- | | | | |
|------------------------------------|--------------------------|-----------------------------|--------------------------|
| Self- poisoning | <input type="checkbox"/> | Carbon Monoxide Poisoning | <input type="checkbox"/> |
| Hanging/ strangulation | <input type="checkbox"/> | Drowning | <input type="checkbox"/> |
| Firearms | <input type="checkbox"/> | Cutting/ stabbing | <input type="checkbox"/> |
| Jumping from height | <input type="checkbox"/> | Jumping/ lying before train | <input type="checkbox"/> |
| Jumping/ lying before road vehicle | <input type="checkbox"/> | Suffocation | <input type="checkbox"/> |
| Burning | <input type="checkbox"/> | Electrocution | <input type="checkbox"/> |
| N/K | <input type="checkbox"/> | N/A | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | | |
- (If other please specify)*

Please use the space below to provide any other comments.

SECTION 2: FINAL GP CONTACT

4. What was the date of the last consultation between the deceased and their General Practitioner?

_____ Day _____ Month _____ Year

5. How long before the suicide did this contact occur?

| | | | |
|-------------------------------------|--------------------------|---------------------------------------|--------------------------|
| Less than 24 hours | <input type="checkbox"/> | More than 4 weeks-less than 13weeks | <input type="checkbox"/> |
| More than 24 hours-less than 7 days | <input type="checkbox"/> | More than 13 weeks-less than 6 months | <input type="checkbox"/> |
| More than 7 days-less than 4 weeks | <input type="checkbox"/> | More than 6 months-1 year | <input type="checkbox"/> |

6. What was the reason for this contact?

| | | | |
|------------------------------|--------------------------|-------------------------------|--------------------------|
| Mainly psychological reasons | <input type="checkbox"/> | Both physical & psychological | <input type="checkbox"/> |
| Mainly physical reasons | <input type="checkbox"/> | N/K | <input type="checkbox"/> |
| | <input type="checkbox"/> | | |

Other
(If other please specify)

7. Was any treatment offered at last contact?

Yes No N/K

a) If yes, please specify. (Brief details of medication, advice, counselling or other treatments)

N/A

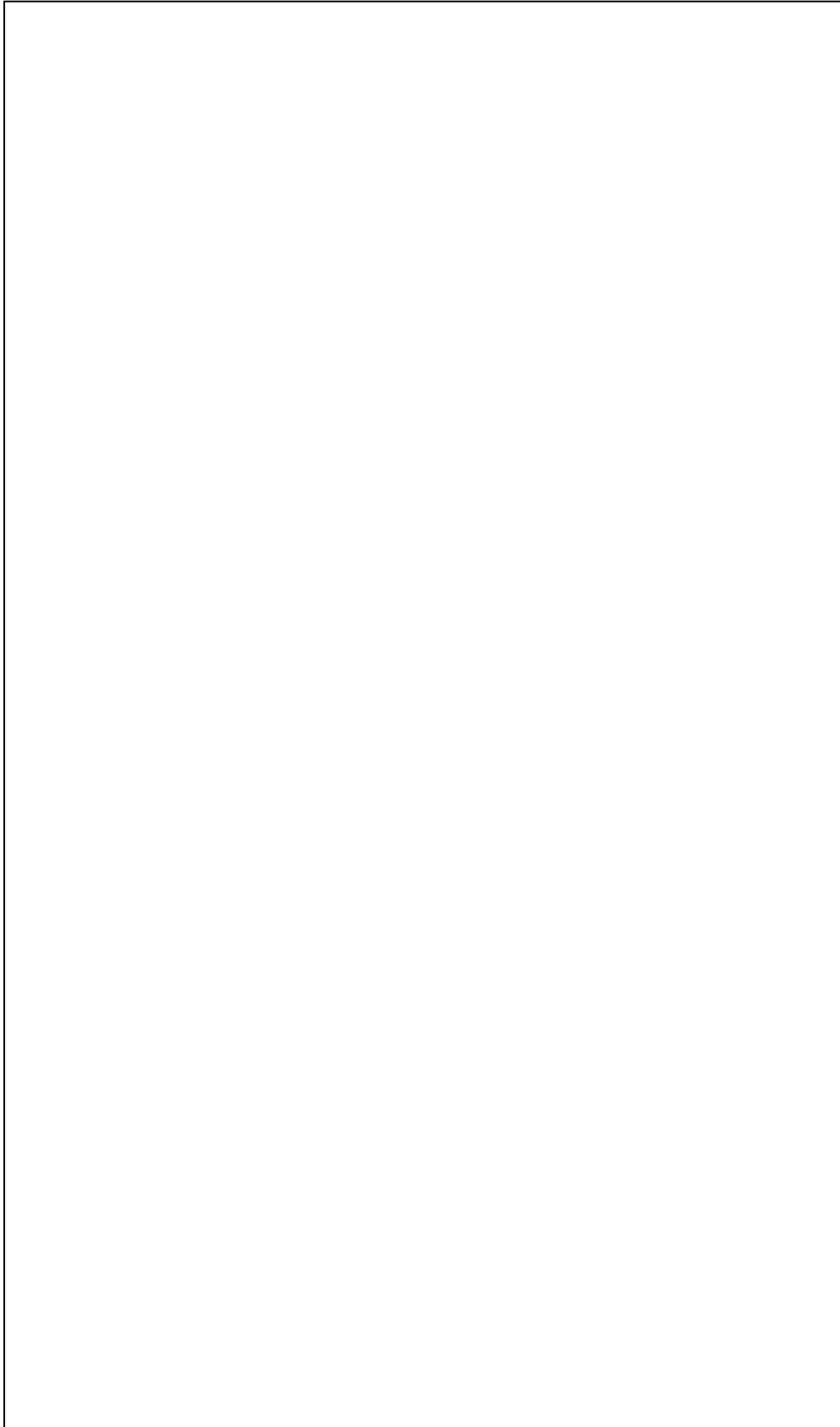
b) If yes, did the deceased accept this treatment?

Yes No N/K N/A

8. Is there any clear evidence in the records of any of the following being present at the last consultation?

| | <i>Yes</i> | <i>No</i> | <i>Not known</i> |
|--|--------------------------|--------------------------|--------------------------|
| I. Emotional distress | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| II. Depressive illness | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| III. Deterioration in physical health | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| IV. Delusions or hallucinations | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| V. Hostility | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| VI. Increased use of alcohol | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| VII. Increased use of other substances | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| VIII. Recent deliberate self harm | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| IX. Hopelessness | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| X. Suicidal Ideas | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please use the space below to provide any other comments about last contact with General Practitioner.

A large, empty rectangular box with a thin black border, intended for the user to provide additional comments about their last contact with a General Practitioner.

SECTION 3: PHYSICAL HEALTH

9. Was the deceased diagnosed with any physical illnesses in the 12 months before their death?

Yes No N/K

a) If yes, please specify the disorder(s) & date(s) of diagnosis. N/A

10. Was the deceased suffering from any chronic physical illnesses?

Yes No N/K

a) If yes, please specify the disorder(s) & date(s) of diagnosis. N/A

11. Was the deceased suffering from any terminal illnesses?

Yes No N/K

a) If yes, please specify the disorder(s) & date(s) of diagnosis. N/A

12. Was the deceased prescribed any medication for their physical health problems in the 12 months prior to death?

Yes No N/K N/A

a) If yes, please specify. *(Name of medication, dose prescribed & dates)* N/A

b)

Yes No N/K N/A

13. Were any referrals made for the deceased's physical health problems in the 12 months prior to death?

Yes No N/K N/A

a) If yes, please specify. *(Brief details - speciality, hospital)*

N/A

b) If yes, did the deceased accept the referral?

Yes No N/K N/A

14. Did the deceased undergo any surgical procedures / operations for their physical health problems in the 12 months prior to death?

Yes No N/K N/A

a) If yes, please specify. N/A

15. Was the deceased waiting for any surgical procedures / operations for their physical health problems in the 12 months prior to death?

Yes No N/K N/A

a) If yes, please specify. N/A

16. Was the deceased offered any other treatment for current physical health problems in the 12 months prior to death?

Yes No N/K N/A

a) If yes, please specify.

N/A

b) If yes, did the deceased accept this treatment?

Yes

No

N/K

N/A

Please use the space below to provide any other comments on deceased's physical health.

SECTION 4: MENTAL HEALTH

17. When was the deceased first diagnosed with a mental disorder?

_____ *Day* _____ *Month* _____ *Year*

N/K

18. What was the diagnosis?

19. Who made this diagnosis?

20. If their General Practitioner did not make this diagnosis, when did they first become involved in the mental health care of the deceased?

_____ *Day* _____ *Month* _____ *Year*

N/A

21. Had the deceased been diagnosed with any other mental disorders?

Yes

No

N/K

a) If yes, please specify including dates of diagnosis.

N/A

22. Were any referrals made for the deceased's mental health problems in the 12 months prior to death?

Yes No N/K N/A

c) If yes, please specify. *(Brief details - speciality, hospital)*

N/A

d) If yes, did the deceased accept the referral?

Yes No N/K N/A

23. Was the deceased prescribed any medication for their mental health problems in the 12 months prior to death?

Yes No N/K

a) If yes, please specify. *(Name of medication, dose prescribed & dates)*

N/A

b) If yes, did the deceased accept this medication?

Yes No N/K N/A

24. Was the deceased offered any other treatment for their mental disorder in the 12 months prior to death?

Yes No N/K

a) If yes, please specify.

N/A

b) If yes, did the deceased accept this treatment?

Yes No N/K N/A

25. Was the deceased receiving mental health care from any other person in the 12 months prior to suicide? (eg counsellors/ substance abuse services)

Yes No N/K

a) If yes please specify.

N/A

Please use the space below to provide any other comments on the deceased's mental health.

A large, empty rectangular box with a thin black border, intended for providing additional comments on the deceased's mental health. The box is currently blank.

Appendix G: GP Interview Schedule

**THE NATIONAL CONFIDENTIAL INQUIRY INTO SUICIDE AND
HOMICIDE BY PEOPLE WITH MENTAL ILLNESS**

Study of Suicides in Contact with Mental Health Services.

General Practitioner Interview Schedule

[Version: 1/2004]

[Check any unanswered questions in the GP medical records proforma/ questionnaire]

1. Can you tell me about the deceased's general health?
 - Any serious illnesses?
 - Impact on daily living?
 - Impact on mental health?

2. Can you tell me about their mental health?
 - Impact on daily living?
 - Treatment?
 - Previous suicidal thoughts/ intentions?
 - Views on mental health care received?

3. Can you tell me about the last consultation you had with the deceased?
 - Reason for consultation?
 - Any suicidal thoughts/ intentions?
 - Concerned for patient safety? + Why?
 - Treatment?
 - Risk level/ assessment?

4. Had the deceased ever attempted suicide before?
 - How often?
 - Circumstances?
 - Reasons why unsuccessful?

5. Can we discuss the suicide itself?
 - How did you find out about it?
 - Was it planned?
 - Any differences with previous attempts? + What?
 - Why success this time?
 - Contributory factors?
 - Could it have been prevented? + How?
 - Effect on GP?
 - Support for GP?

6. Are there any other comments you would like to make or anything else you would like to discuss?

Appendix H: GP service structure interview questionnaire

**THE NATIONAL CONFIDENTIAL INQUIRY INTO SUICIDE AND
HOMICIDE BY PEOPLE WITH MENTAL ILLNESS**

Study of Suicides in Contact with Mental Health Services.

**General Practice Service Structure & Facilities
Interview Questionnaire**

[Version: 1/2006]

CASE ID:

GP ID:

DATE:

RESEARCHER NAME:

Which district does this General Practice cover?

26. How many patients are there registered at this practice?

27. How many General Practitioners are there at this practice?

| |
|-------------------------|
| <i>Full Time:</i> |
| <i>Part Time:</i> |
| <i>Locums:</i> |
| <i>Vacancies:</i> |

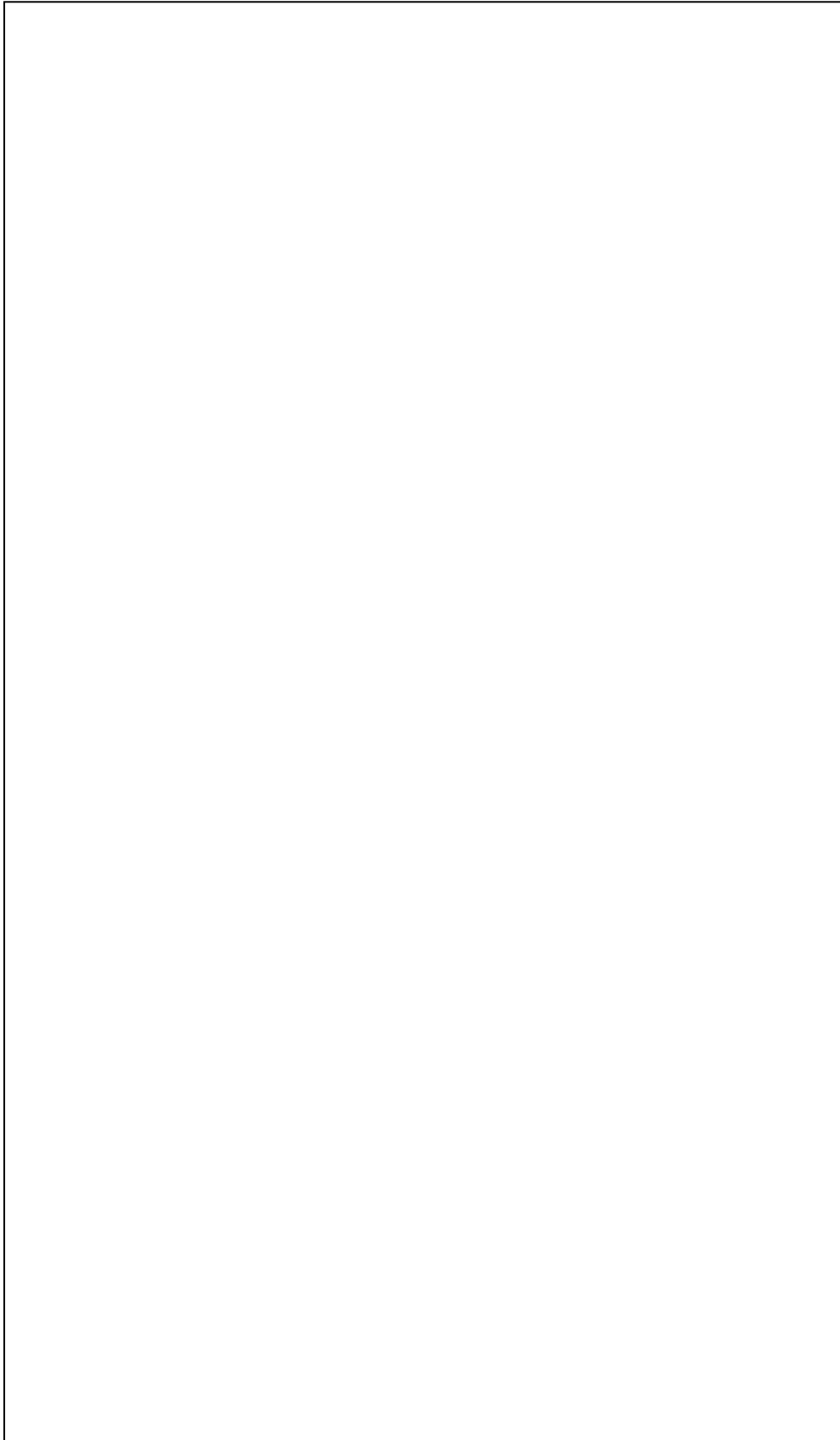
28. Does this practice have a specific psychiatric liaison process?

Yes No N/K

a) If yes, please describe.

N/A

29. Are there other services this practice refers to for Mental Health Issues?

A large, empty rectangular box with a thin black border, intended for the user to provide an answer to the question above. The box is currently blank.

30. Are there any additional services/ schemes provided at this practice to deal with mental health issues?

Yes No N/K

a) If yes, please specify.

N/A

31. Are there any additional services/ schemes provided at this practice to deal with suicidal ideas/ deliberate self harm?

Yes No N/K

a) If yes, please specify.

N/A

32. Are there any services/ schemes which you think are needed in relation to mental health issues?

Yes No N/K

a) If yes, please specify what & why? N/A

33. Are there any services/ schemes which you think are needed in relation to suicide/ deliberate self harm?

Yes No N/K

a) If yes, please specify what and why? N/A

34. Does this practice have any written policies/ protocols regarding mental health?

Yes No N/K

a) If yes, please specify

35. Does this practice have any written policies/ protocols regarding suicide/ deliberate self harm

Yes No N/K

a) If yes, please specify

36.

Yes No N/K

a) If yes, how regularly is this updated? N/A

b) Is this training available to all staff?

Yes No N/K N/A

37. Do the staff at this practice receive training on deliberate self harm or suicide awareness?

Yes No N/K

a) If yes, how regularly is this updated? N/A

b) Is this training available to all staff?

Yes No N/K N/A

38. Do the staff at this practice receive training on risk assessment for suicide?

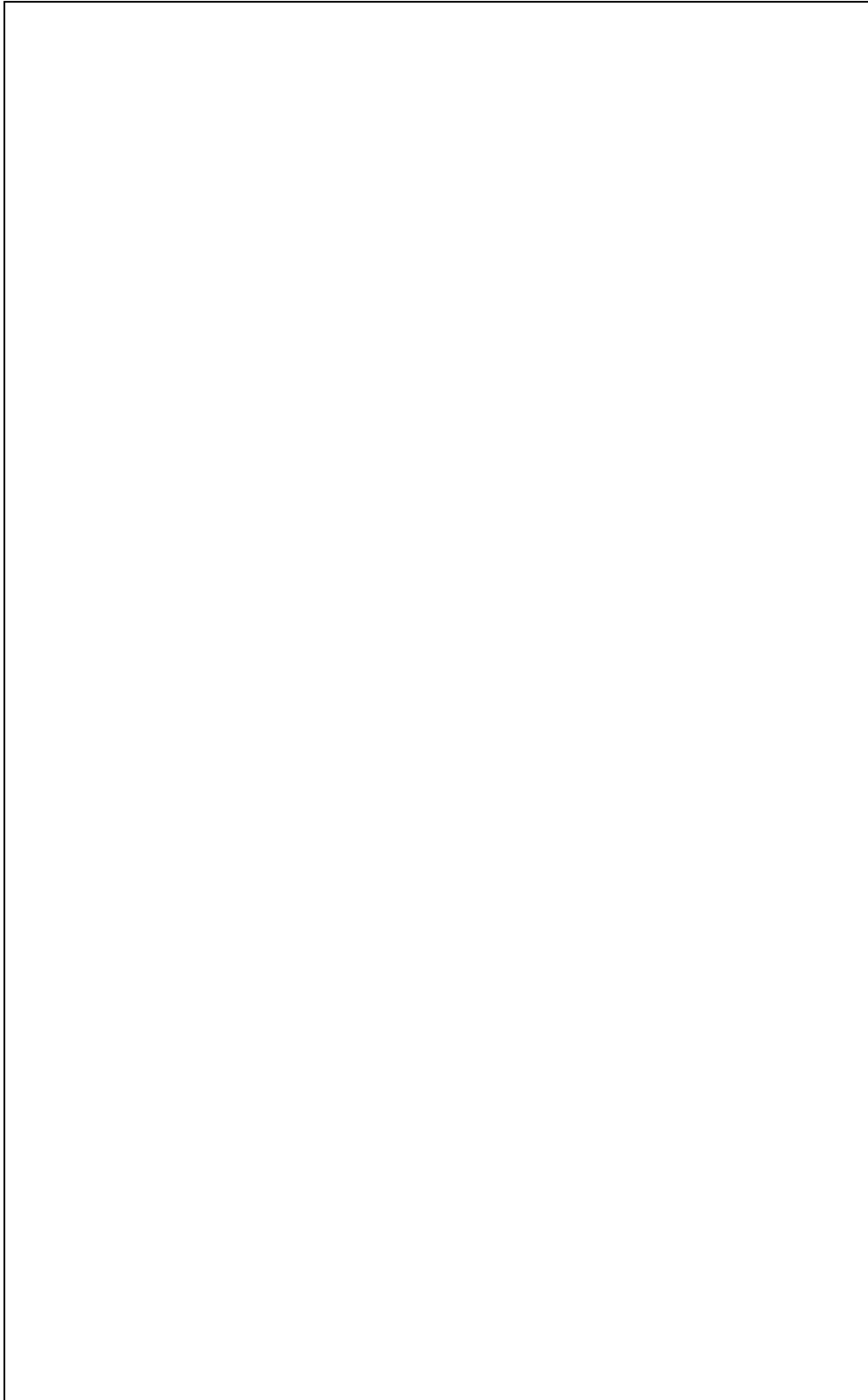
Yes No N/K

a) If yes, how regularly is this updated? N/A

b) Is this training available to all staff?

Yes No N/K N/A

39. Please use the space below to provide any other comments about service related issues.

A large, empty rectangular box with a thin black border, intended for providing comments. It occupies the majority of the page's vertical space below the question.