Irish Journal of Psychological Medicine (2017), **34**, 89–97. © College of Psychiatrists of Ireland 2015
doi:10.1017/ipm.2015.52

ORIGINAL RESEARCH

General Practitioners' experience of child and adolescent suicidal ideation and behaviour – a survey

E. M. Kolshus[1,*], E. H. Kolshus[2], B. Gavin[3], W. Cullen[4] and F. McNicholas[5]

[1] *Roscrea Centre Surgery, Roscrea, Co. Tipperary, Ireland*
[2] *Department of Old Age Psychiatry, University Hospital Limerick*
[3] *The Children's Mental Health Clinic, Dublin, Ireland*
[4] *UCD School of Medicine and Medical Science, Belfield, Dublin, Ireland*
[5] *The Lucena Clinic, Rathgar, Dublin, Ireland*

Objectives. A major cause of death in Irish men aged 15–24 is suicide and the rates for those aged 15–19 are amongst the highest in Europe. Despite concerns over suicidal ideation or behaviour, little research has been done in the Irish primary care context. We therefore aimed to carry out a study of Irish General Practitioners (GPs)' experience regarding suicidal ideation or behaviour in children and adolescents.

Methods. The study design was a descriptive, cross-sectional, questionnaire survey. We randomly selected 480 GPs and invited them to participate via post.

Results. In total, 198 GPs replied, representing a response rate of 41% with a sampling error of ±6.8%. In total, 184 of respondents (93%) saw more than 50 children and adolescent patients annually, however, presentations of suicidal ideation and behaviour were relatively rare, with 36% reporting seeing none, 58% seeing between one and five and 6% seeing more than five such presentations annually. In total, 119 (62%) of GPs reported a willingness to prescribe antidepressants for this age group. In total, 66% of GPs felt this was either 'always' or 'usually' a difficult patient group to manage, and the single most commonly reported difficulty by GPs was access to services [n = 48 (33%)].

Conclusions. GPs reported that their management of children and adolescents with suicidal ideation or behaviour is often difficult. GPs play a key liaison role in the area of child and adolescent mental health, but our results indicate that GPs are also involved in the treatment of this patient group. However, ongoing education was not a priority according to GPs themselves.

Received 4 May 2015; Revised 11 September 2015; Accepted 5 October 2015; First published online 2 November 2015

Key words: Primary care, suicidal behaviour, suicidal ideation, survey, youth.

Introduction

A major cause of death in Irish men aged 15–24 is suicide (CSO, 2010). In a European context, suicide rates in Ireland are relatively low at 10.9/100 000, ranking 21st out of 31 EU countries in 2010. In the 0–19 age group, Ireland's suicide rate is disproportionately high at 5.12/100 000, ranking second highest out of 29 European countries (MacKay & Vincenten, 2014). Suicide in children or adolescents under 15 is rare. Malone *et al.* (2012) recently reported on Irish suicide rates in under-18s. In the 5–14 age group, total suicide rates were 1.6/100 000 (males: 2.2, females: 1.03). Rates for older adolescents are not well described, as most countries report suicide rates in the 15–24 age bracket. Wasserman *et al*. (2005) analysed rates for countries that collected separate information for the 15–19 age group up to 1999 and found a global mean suicide rate of 7.4/100 000 (males: 10.5, females: 4.1). In an Irish context for those in the 15–17 age group, total suicide rates were 9.4/100 000 (males: 13.5, females: 5.1) (Malone *et al*. 2012). These results are mirrored in a population-based study in the southwest of Ireland that found annual suicide rates of 10/100 000, with the incidence in males three times higher (McMahon *et al*. 2014). Another recently published Irish population-based study found a lifetime prevalence of suicidal thoughts/behaviour of 21.1% in a cohort of 19–24 year olds (Hurley *et al*. 2015). In a global context, youth suicide in Ireland is consistently above the mean, particularly for young males (Wasserman *et al*. 2005). This is despite point prevalence of psychiatric disorders being comparable with international rates (Lynch *et al*. 2006).

Definitions of suicidal ideation, suicidal behaviour and self-harm vary (Silverman *et al*. 2007). The US

* Address for correspondence: Dr E. M. Kolshus, Roscrea Centre Surgery, Castle Street, Roscrea, Co. Tipperary, Ireland.
(Email: elainekolshus@gmail.com)

National Institute of Mental Health define suicidal behaviour as 'behavior with a nonfatal outcome, for which there is evidence (either explicit or implicit) that the person intended at some (nonzero) level to kill himself/herself'. Suicidal ideation is defined as 'any self-reported thoughts of engaging in suicide-related behavior' (Pearson *et al*. 2001). This definition differentiates suicidal ideation and behaviour from non-suicidal self-harm, even though some have argued this separation is artificial (Arensman & Keeley, 2012). Deliberate self-harm is a broader concept with higher prevalence (Skegg, 2005). Deliberate self-harm includes acts involving varying range of motives and intent, and can be an expression of distress rather than an actual wish to kill oneself (Hawton & James, 2005).

Non-suicidal self-harm behaviour is more common in females, and those affected are less likely to attend a General Practitioner (GP) or other health professional (De Leo & Heller, 2004). The latest Irish figures indicate that rates of deliberate self-harm are at their highest for females aged 15–19 (619/100 000) and for males aged 20–24 (512/100 000) (Griffin *et al*. 2014).

Suicidal ideation represents a strong indicator of vulnerability to future suicide attempts (Bebbington *et al*. 2010) and may indicate an underlying diagnosis of depression (Evans *et al*. 2005). Adolescent suicidal ideation is associated with a twofold increase in future psychiatric disorders, a 12-fold increase in future suicide attempt by the age of 30 as well as poorer overall functioning (Reinherz *et al*. 2006). The international lifetime prevalence of suicidal ideation in adolescents is estimated at 21.7–37.9%, and the prevalence of adolescent suicidal behaviour is estimated at 1.5–12.1% (Nock *et al*. 2008). One Irish study of adolescents found that of those identified 'at risk' of having a mental health disorder 45.7% expressed suicidal ideation. Of the 'not at risk' group, 13% expressed suicidal ideation (Lynch *et al*. 2004). Suicidal ideation or behaviour can go undetected until the patient presents in crisis, often to secondary services such as emergency departments. Many patients with suicidal ideation, particularly children, never present to secondary services, and their only interaction with healthcare providers may be with their GP. Community-based studies have found that rates of healthcare-seeking behaviour in teenagers with high levels of depression and anxiety are in the range of 13–36% (Zachrisson *et al*. 2006; Mauerhofer *et al*. 2009; Fuller-Thomson *et al*. 2013). The majority of young people attending their GP present with primarily medical or somatic complaints, but many have clinically significant levels of psychological distress or occult suicidal ideation or behaviour, despite presenting for another issue (Schichor *et al*. 1994; McKelvey *et al*. 2001; Joiner *et al*. 2002). In fact, there is evidence that suicidal ideation and high levels of psychological distress can lead to a *lower* likelihood of an adolescent choosing to consult with their GP (the 'help-negating' effect of suicidal ideation) (Wilson *et al*. 2010).

Even when the reason for presentation is clear, depressive disorders and suicidal ideation or behaviour can easily be missed (Hickie *et al*. 2001; Hickie *et al*. 2007; Fitzpatrick *et al*. 2011). Detection rates of mental health disorders in children and adolescents by GPs are as low as 14% in mild, and 17% in moderate symptoms of underlying mental health disorder (Kramer & Garralda, 1998). In one London study, only 26% of children meeting criteria for a mental health disorder on a questionnaire were also identified in a GP consultation. When parental concern was expressed, recognition increased from 26% to 88% (Sayal & Taylor, 2004). Some studies suggest that even when disorders are recognised, onward referral rates are lower than that might be expected (Garralda & Bailey, 1988; Evans & Brown, 1993). This therefore represents a particular challenge for GPs who may be limited in terms of time, specialised skills and confidence in dealing with this complex patient group (Veit *et al*. 1995; Leahy *et al*. 2013).

Despite concerns over suicidal ideation or behaviour, little research has been done in the Irish primary care context. We therefore aimed to carry out a descriptive study of Irish GPs' experience regarding suicidal ideation or behaviour in children and adolescents.

Methods

The study design was a descriptive, cross-sectional, questionnaire survey. We randomly selected 20% (n = 480) of GPs from the Irish Medical Directory (IMD) and invited them to participate. Randomisation was based on one author (E.K.) numbering all entries in the IMD, with another author (E.K.) generating a list of 480 numbers using an online random number generator (www.stattrek.com/statistics/random-number-generator.aspx). The IMD is a national database of GPs, updated on an annual basis. We estimated that around two-thirds would respond, which would give us a 5% margin of error with 95% confidence level. Our questionnaire was study specific, but derived from one used in national surveys of GPs in schizophrenia (Gavin *et al*. 2005; Simon *et al*. 2005). The questionnaire had 24 items that assessed aspects of the management of child and adolescent suicidal ideation or behaviour in general practice. The questions were a mix of tickbox and free-text response fields. Responses from free-text fields were summarised for quantitative analysis. The questionnaire took 5–10 minutes to complete. The questionnaire did not contain any identifying information, ensuring anonymity.

Questionnaires were sent in two stages. In the first stage, a questionnaire, pre-addressed envelope and

https://doi.org/10.1017/ipm.2015.52 Published online by Cambridge University Press

postcard were posted to GPs. The postcard was marked with a unique identifier number. The GPs were asked to return the completed questionnaire and postcard separately to avoid further mailings and maintain confidentiality. In the second stage, we resent the questionnaire to non-responders to reduce response bias. The questionnaires were coded, entered into a spreadsheet and later imported to PASW (version 18.0.3; IBM/SPSS Inc., USA, 2009) for descriptive statistical analysis. The ethics committee of St. John of God Hospitaller Services granted ethical approval for this study.

Results

In total, 198 GPs replied, representing a response rate of 41%. Seven of the questionnaires were returned blank (three were from GPs no longer in practice and two from GPs who did not see patients under the age of 18.) This response rate gave us an increased sampling error of ±6.8% *versus* our expected sampling error.

Experience of suicidal ideation and behaviour

In total, 184 (93%) of respondents saw at least 50 children and adolescents a year in each age bracket of our survey (i) <13, (ii) 13–16, (iii) 16–18 (see Table 1).

In total, 157 (79%) GPs had been involved in the treatment of a child or adolescent with suicidal ideation or behaviour in their career. Presentations of suicidal ideation and behaviour was relatively rare, with 36% reporting seeing no such presentations, 58% seeing between one and five such presentations and 6% seeing more than five such presentations annually in the group as a whole. Presentations of suicidal ideation and behaviour increased with age, with the highest rate in ages 16–18. The majority of GPs (55–66%) reported seeing between one and five children or adolescents aged 13–18 annually with a psychiatric illness. This also increased with age, with 54 (27%) GPs stating they saw at least fifteen 16–18 year olds annually with a psychiatric illness. GPs were asked to identify what underlying diagnoses they felt would present with suicidal ideation or behaviour. In total, 181 GPs identified specific diagnoses, and of these, $n = 123$ (68%) gave depression as the most frequently observed category, followed by personality disorder, $n = 43$ (24%) (see Fig. 1).

In total, 154 GPs identified specific symptoms that were frequently encountered in this patient group. The most commonly observed symptom was low mood, $n = 77$ (50%), followed by behavioural problems, $n = 58$ (38%) (see Fig. 2).

Initial management

In total, 119 (62%) GPs reported they would initiate psychotropic medications for children and adolescents presenting with suicidal ideation or behaviour. However, 111 (93%) GPs reported they would only do so 'rarely'.

Table 1. *Number of patients with suicidal ideation or behaviour by age group*

Number of children	'None' [*n* (%)]	'1–5' [*n* (%)]	'>5' [*n* (%)]	Total (*n*)
Under 13	119 (72)	47 (28)	0	166
13–16	49 (28)	117 (68)	6 (3)	172
16–18	20 (11)	134 (76)	23 (13)	177

General practitioners (GPs) were asked How many children or adolescents are seen in your clinic annually with suicidal ideation or behaviour? There were three reply options: 'none', '1–5' or '>5'. The number of GPs who selected the respective options is indicated by three age brackets.

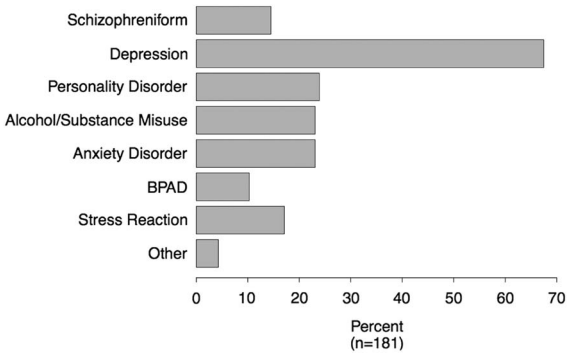

Fig. 1. Diagnoses frequently presenting with suicidal ideation or behaviour. General Practitioners were asked to identify diagnoses that they felt were associated with a presentation of suicidal ideation or behaviour in children and adolescents. BPAD: bipolar affective disorder.

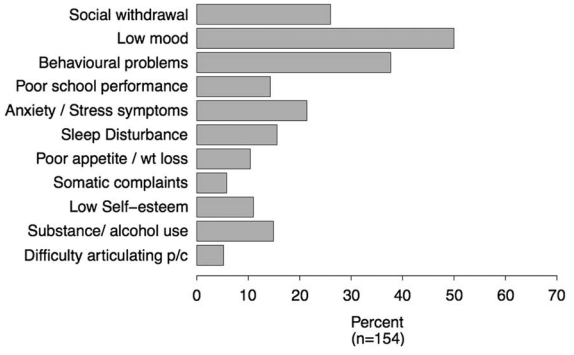

Fig. 2. Symptoms most commonly seen with suicidal ideation or behaviour. General Practitioners were asked to identify the symptoms that typically accompanied suicidal ideation or behaviour in children and adolescents.

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In total, 62 (34%) of GPs reported they would 'never' initiate psychotropics in this patient group. With regard to specific medication use, 108 (91%) of GPs would prescribe antidepressants, 9 (8%) would consider antipsychotics and 12 (10%) reported prescribed benzodiazepines. In total, 18 GPs reported they would consider a combination of psychotropic medications. Information on age differences in prescribing were not recorded, nor rationale behind prescribing.

Of those who prescribe antidepressants, 79 (90%) reported prescribing selective serotonin reuptake inhibitors (SSRIs). Fluoxetine was the most commonly reported prescribed SSRI [$n = 53$ (67%)], followed by escitalopram, [$n = 12$ (15%)]. If medications were prescribed, 104 (87%) of responders stated they closely monitored the progress of the patient through clinical assessments and reviews with family or parents. This typically involved weekly or fortnightly reviews. In total, 6 (5%) reported they included lab investigations such as ECG (electrocardiogram) or regular bloods as part of their medication monitoring progress. In total, 16 (13%) reported they would not follow-up these patients themselves, but refer them to specialist services for monitoring.

In total, 121 (63%) GPs referred patients to CAMHS, independent counselling or psychotherapy services. Of these, referring to independent services was twice as likely to be the initial management approach rather than referrals to CAMHS [$n = 79$ (41%) *v.* $n = 43$ (22%)]. Other referral options identified by GPs included social welfare services, $n = 11$ (6%) and mental health support groups, $n = 5$ (3%). In total, 121 GPs indicated that they would use or refer to psychotherapy. This included generic counselling, $n = 100$ (83%), followed by family therapy, $n = 35$ (29%) and cognitive behavioural therapy (CBT), $n = 18$ (15%).

Further management and relationship with CAMHS

GPs reported that this patient group was difficult to manage. In total, 18 (11%) reported 'always', 94 (55%) reported 'usually' and 52 (31%) reported 'rarely' having difficulty with these patients. Only six GPs (4%) reported 'never' having difficulty with this group.

GPs were asked whether they felt a specialised response team would be useful. In total, 173 GPs completed this question and of these $n = 169$ (98%) would welcome a response team. GPs were then asked to rank a number of different options for the role of the specialised response team, should one be available. In total, 143 GPs completed this question (see Fig. 3).

GPs were asked what particular difficulties they had in managing this group of patients. In total, 146 GPs gave a valid free-text response (see Fig. 4).

Access to services was identified as a primary barrier [$n = 48$ (33%)]. Of those who felt access was a common difficulty, the single most problematic aspect was waiting times, reported by 39 (46%) GPs. This was followed by uncertainty in the responsibility for management of 16–18 year olds, reported by 24 (28%) GPs. Of note, in the Irish healthcare system, adolescents between 16 and 18 can sometimes fall between CAMHS and adult services (Clayton & Illback, 2013). In total, 9 (11%) GPs reported a lack of support or guidance from specialist services, whereas 9 (11%) GPs reported difficulties in accessing multidisciplinary team services directly from CAMHS. Only 2 (2.4%) reported difficulty with a lack of admission beds or out-of-hours/emergency response service.

In total, 157 GPs (87%) reported they would refer difficult-to-manage cases to CAMHS, whereas only

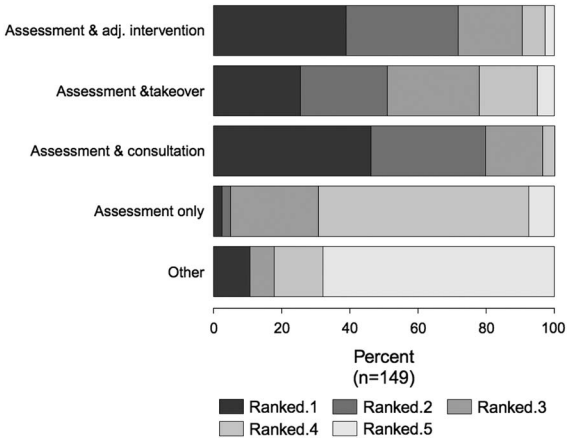

Fig. 3. Role of specialised intervention team. This stacked barplot shows the percentage of respondents who ranked a specific intervention role on a rank from 1 to 5, with 1 being the preferred choice. The darkest shade of grey corresponds to first ranking. The highest number of first ranks was 'assessment and consultation with GP regarding management'.

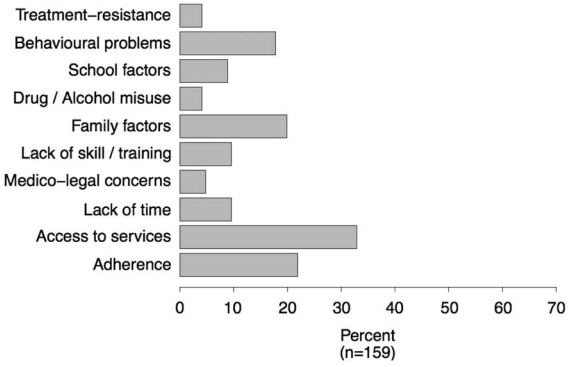

Fig. 4. Most common difficulties encountered. General Practitioners were asked to identify the most common difficulties they encountered in managing children and adolescents with suicidal ideation or behaviour. This was a free-text response item.

https://doi.org/10.1017/ipm.2015.52 Published online by Cambridge University Press

Table 2. *Follow-up of patients*

	25%	50%	75%	100%
Number that go on to attend appointment with CAMHS (n = 169)	25	49	72	23
Number that are lost to follow-up by CAMHS (n = 157)	69	66	20	2
Number that are lost to follow-up by GPs (n = 154)	101	35	16	2

General Practitioners (GPs) were asked to estimate (a) the percentage of their patients with suicidal ideation/behaviour who went on to attend an appointment with CAMHS, (b) the percentage of patients lost to follow-up by CAMHS and (c) the percentage lost to follow-up by themselves.

11 (6%) would refer to general adult psychiatric services, 8 (4%) to independent mental health services, 3 (2%) to social services and 2 (1%) would refer to paediatric services. Regarding follow-up, 65% of responding GPs (n = 154) reported that less than a quarter of children and adolescents presenting with suicidal ideation or behaviour were lost to follow-up by the GP themselves (see Table 2). GP's estimation of the corresponding value for loss to follow-up by CAMHS was 43.9% (n = 157).

Discussion

GPs are potentially well placed to identify children or adolescents at risk of suicide, as they remain the first point of contact and referral route for most health issues (Sayal *et al*. 2014). In total, 93% of GPs who responded to this survey saw at least 150 children or adolescents a year. Most (79%) had been involved in the treatment of suicidal ideation or behaviour in a child or adolescent at some stage in their career. Previously discussed epidemiological data show that rates of suicide increase with age in the under-18s in Ireland. In line with this, only 28% of our GP sample reported seeing children (under 13) with suicidal ideation or behaviour. These rates increased to 72% for those aged 13–16 and 89% for those aged 16–18.

However, this patient group can be difficult to identify and manage. They may present with repeated somatic complaints rather than psychological distress (Kramer & Garralda, 1998; Beckinsale *et al*. 2001; McNeill *et al*. 2002). Only 5% of our respondents identified somatic complaints as a possible presenting symptom of underlying suicidal ideation, suggesting a low index of suspicion for psychiatric diagnoses in patients with medically unexplained symptoms (Shain, 2007). Our respondents saw a high number of children and adolescents, yet most reported seeing only between one and five annually with either suicidal ideation or behaviour, and similar rates for psychiatric disorders overall. This could indicate a low detection rate by GPs, however, we do not know the prevalence of mental health problems in the GPs cohort. Our findings were similar to those seen in a Canadian postal survey of GPs, which found that 80% of respondents had seen adolescents who had attempted suicide (Gilbert *et al*. 2006). They and others have suggested that GPs should actively screen for mental health problems to improve detection rates (Rickwood *et al*. 2007; Horowitz *et al*. 2009; Williams *et al*. 2009).

The majority of respondents stated they would refer onward as part of initial management, mostly to independent services. For difficult to manage cases, however, the majority stated that they referred cases directly to CAMHS. The quality of independent counselling and psychotherapy is difficult to appraise. Meta-analytic evidence supports the use of CBT for the treatment of depression in children and adolescents (Klein *et al*. 2007; Watanabe *et al*. 2007). However, the evidence base for CBT for suicidal ideation or behaviour is much more limited, although there is some promise for CBT in this group of patients also (Robinson *et al*. 2011). The findings do suggest that GPs are willing to refer to alternate services if they are available. In recent years in Ireland, innovative youth mental health programmes such as Jigsaw/Headstrong have provided services that compliment traditional CAMHS models (Illback *et al*. 2010; O'Keeffe *et al*. 2015). These types of programmes may help prevent patients falling between gaps that exist in the current service system.

Pharmacotherapy is often used as a first-line intervention for moderate to severe depression in primary care. The use of medication may be associated with lower suicide rates in adolescents (Gibbons *et al*. 2006). One systematic review suggested that children and adolescents may respond positively to SSRIs, especially fluoxetine, but also demonstrated a link between SSRI use and increased risk of suicidality (Hetrick *et al*. 2007). Fluoxetine, although not currently licenced in Ireland for those under 18, is the only SSRI recommended as a first-line treatment in children or adolescents by the National Institute of Clinical Excellence (NICE) guidelines (NICE, 2005). In our sample, about two-thirds of respondents stated that they would be willing to

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initiate psychotropics for this group, albeit mostly rarely. NICE recommends that medications should be initiated at tertiary level. Fluoxetine is the medication of choice, and although fluoxetine was the most commonly prescribed medication, a significant portion reported prescribing other SSRIs. Appropriate pharmacotherapy in this group is important, as the majority of children or adolescents who complete suicide have a psychiatric diagnosis and are un-medicated (Vasa *et al*. 2006). GPs reported that this was a difficult patient group, and accessing services contributed significantly to this. Most felt that rapid access or a specialised response team would be helpful, suggesting that GPs feel that managing these patients appropriately requires significant input from tertiary services, and that their role, whilst important, is at times facilitatory rather than in primary management. Models already successful in other specialist services with limited resources include the National Healthlink Project in Ireland. This is a national referral and enquiry programme in Ireland for oncology and neurology allowing GPs to access rapid triage of and advice from tertiary services.

This survey identifies the primary care perspective on an important area of child and adolescent healthcare. Further studies from both primary care and emergency departments/CAMHS will help to develop our knowledge of the deficiencies and strengths of services already in place, and allow the planning of future improved services. Our data indicate that a combined approach to management is important to GPs, and that many GPs feel there is a gap between primary care and CAMHS in terms of access, clear referral pathways and communication of information. Many patients identified by GPs are reported to be lost to follow-up, either by CAMHS or primary care. This is significant as high rates of consultation with GPs before suicide is consistently reported in adults (Lynch *et al*. 2004; Ougrin *et al*. 2011). Others have also found that children and adolescents are less likely to attend follow-up appointments, therefore extra effort may be needed to engage this patient group (McCarty *et al*. 2011).

A clear majority felt that the care offered to children and adolescents could be improved. A high percentage would consider initiating pharmacotherapy, perhaps due to a perceived lack of available alternatives and delay to outpatient tertiary review. Traditionally, there were long waiting times for CAMHS in Ireland. However, there has been an approximate 50% reduction in the number of patients on waiting lists for community CAMHS from 2007 to 2011 (HSE, 2011). Increasing GPs awareness of reduced waiting times may therefore facilitate more referrals. A consequence of this may be a rebound increase in waiting times for assessments. If this were the case, an alternative to standard mental health treatment could come from emerging online intervention programmes. Although the evidence base for such interventions is in its infancy, there are encouraging early results from programmes such as the Reach Out! Online Community Forum in Australia (Webb *et al*. 2008). Further research is clearly warranted in this area (Christensen *et al*. 2014). A randomised controlled trial of an internet-based CBT intervention (Re-frame IT) among school students experiencing suicidal ideation is also underway (Robinson *et al*. 2014).

Targeted education programmes with clear and practical information regarding at-risk group identification and management may go some way to improving the care GPs can provide (Healy *et al*. 2013). This is especially true in Ireland, where one study has showed that only 32% of Irish GPs had postgraduate training in psychiatry or psychological therapies. (Copty & Whitford, 2005). Reports and guidelines also tend to stress the importance of GP education and training in this area (World Health Organization, 2000; World Health Organization, 2014). However, the GPs who responded to our survey did not rate further training and education as a priority or a major barrier to improved care for children and adolescents with suicidal ideation or behaviour. It is also not clear what form these educational interventions should take, but a systematic review and meta-analysis of this is currently underway and may clarify this issue (Tait & Michail, 2014).

To our knowledge, this is the first study specifically describing Irish GP management of suicidal ideation or behaviour. One previous survey examined GPs experience of the spectrum of youth mental health problems, but only in the Midwestern region (Healy *et al*. 2013). Our sample was national, representing both urban and rural practice. The survey was completed anonymously, allowing practitioners to be honest in their responses and minimise social desirability bias.

There are a number of limitations to this study. Our survey, although used in similar studies, was not formally validated. Being retrospective in nature, surveys are vulnerable to recall bias. The response rate of 41% was also lower than expected, with possible non-response bias. Other published GP surveys have similar response rates (Stallard *et al*. 2011; Murphy *et al*. 2012), and there is evidence of declining response rates to postal surveys (Cook *et al*. 2009; Wilkinson, 2009; Merry, 2010). Researchers have on the other hand found that physician surveys are more resilient to the effects of non-response than the general public (Flanigan *et al*. 2008). We posted surveys twice to non-responders in an attempt to increase the response rate. A higher rate may possibly have been achieved using an electronic survey, however, there is no current agreement as to which form of survey delivery has the best response rates, which vary from one study to

https://doi.org/10.1017/ipm.2015.52 Published online by Cambridge University Press

another (Cunningham *et al*. 2015). Information on diagnosis and prevalence were also based on GPs subjective experience and beliefs and should be treated as such, rather than as an objective measures. We also did not collect demographic information (age, years in training, location, etc.) from GPs. Although this may have helped anonymity, especially for GPs in smaller communities, it limited the scope for data analysis.

Our findings suggest that further improvement to, and information regarding access to CAMHS is still an area of need, despite recent progress. Further research to investigate models that facilitate integration between primary and specialist services in child and adolescent mental health is necessary in this regard, as our data indicate that GPs would welcome more interaction with CAMHS or other youth mental health services. Although education and training of GPs is often stressed as a way of improving outcomes, this was not reflected by the GPs who participated in this study.

Acknowledgements

The authors would like to acknowledge the Lucena Foundation for financial and administrative support and Greystones Medical Centre, Ireland for administrative support.

Conflicts of Interest

The authors declare that they have no competing interests. This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Ethical Standards

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation with the Helsinki Declaration of 1975, as revised in 2008. The study protocol was approved by the local REC.

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