Research Evaluation of the Suicide Crisis Assessment Nurse (SCAN) Service

November 2012
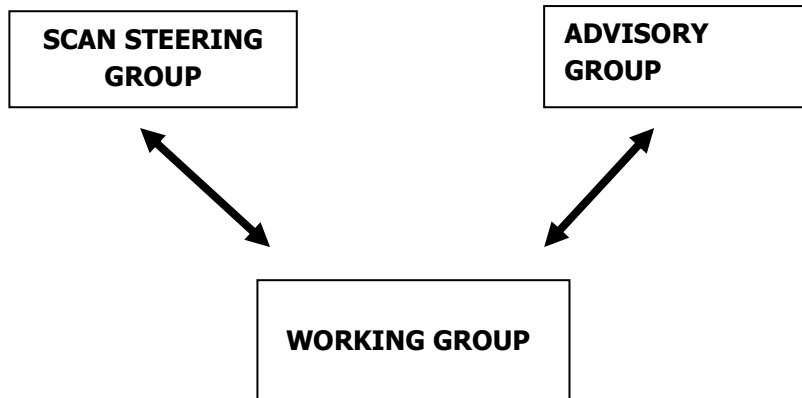
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Overall supervision of the project was carried out by the Principal Investigator (PI). A project Working Group co-ordinated the project and provided a forum for debate of issues, and a responsibility to ensure the project was delivered on time and in budget. The SCAN Steering Group consists of key stakeholders from clinical services, psychiatrists and relevant groups. A project Advisory Group worked with the Principal Investigator; to provide specialist advice and guidance in relation to methodology and associated issues.

Working Group

Members	Affiliation
Dr Stephen Bradley (PI)	School of Nursing and Midwifery, National University of Ireland, Galway.
Prof. Kathy Murphy	School of Nursing and Midwifery, National University of Ireland, Galway.
Prof. Declan Devane	School of Nursing and Midwifery, National University of Ireland, Galway.
Mr Brendan Kennelly,	J.E. Cairnes School of Business & Economics, National University of Ireland, Galway.
Dr Pauline Meskell	School of Nursing and Midwifery, National University of Ireland, Galway.
Ms Mary Pat Butler	Department of Nursing and Midwifery, University of Limerick, Limerick.
Dr. Maura Dowling	School of Nursing and Midwifery, National University of Ireland, Galway.
Ms Siobhan Smyth	School of Nursing and Midwifery, National University of Ireland, Galway.
Ms Agnes Tully	School of Nursing and Midwifery, National University of Ireland, Galway.
Ms Yvonne Conway	School of Nursing and Midwifery, National University of Ireland, Galway.
Ms Fionnuala Jordan	School of Nursing and Midwifery, National University of Ireland, Galway.
Ms Jo Fitzpatrick	School of Nursing and Midwifery, National University of Ireland, Galway.
Ms Siobhan Fitzgerald	School of Nursing and Midwifery, National University of Ireland, Galway.
Ms Ellen Higgins	J.E. Cairnes School of Business & Economics, National University of Ireland, Galway.

SCAN National Steering Group

Members	Affiliation
Dr Paul Moran	Consultant Liaison Psychiatrist, Cluain Mhuire Mental Health Services
Mr Steve Lamb	Clinical Nurse Specialist/Project Nurse – SCAN Wexford
Ms Paula Forrest	Senior Executive Officer, National Office for Suicide Prevention (NOSP)
Dr Donald McDonald	Consultant Adult Psychiatrist, Wexford Mental Health Services
Dr Ella Arensman	Director of Research, National Suicide Research Foundation (NSRF).
Mr Kevin Plunkett	Director of Nursing, Wexford Mental Health Services
Ms Kay Cullen	Assistant Director of Nursing, Wexford Mental Health Services

Advisory Group

Members	Expertise
Prof. Peter Cantillon	Professor of Primary Care, and Head of Department of General Practice, National University of Ireland, Galway
Prof. Colm McDonald	Professor of Psychiatry, National University of Ireland, Galway & Consultant Psychiatrist, Health Service Executive, Western Area
Ms Jutta Kirrkamm	Area Coordinator HSE West and Midlands, The Irish Advocacy Network Ltd. (IAN Ltd)
Ms Mary O'Sullivan	Resource Officer for Suicide Prevention with the HSE West in Counties Galway, Mayo & Roscommon
Ms Alison van Laar	Advanced Nurse Practitioner Liaison Mental Health, West Galway Mental Health Services.
Ms Anne Cleary	Advanced Nurse Practitioner in Recovery and Rehabilitation in Psychosis (RANP), East Galway Mental Health Services.

Acknowledgements

Executive Summary

This research evaluates the impact of the fast track priority referral and assessment system for individuals experiencing a suicidal crisis, known as Suicide Crisis Assessment Nurse (SCAN) Service; operated in Cluain Mhuire and Wexford. The research utilised a mixed method, exploratory sequential design.

A focused literature review concluded that any suicide prevention strategy needs to be investigated comprehensively and methodically to ascertain the potential benefits of risk assessment and collaborative working between primary and secondary care.

Without SCAN, all professionals recognised that referral and/or admission to mental health services was often a 'default' position; necessitated more by lack of appropriate community based facilities than by clinical need. Clinicians were frustrated by the delays and uncertainty that regularly accompanied the process of referral/admission, whilst navigating a cumbersome process and the de facto development of a possibly inappropriate psychiatric history could be the outcome for clients.

GPs, clients and CMHTs described SCAN as providing a valuable, accessible and timely gateway between primary care and mental health services; allowing for expedited admission, referral for on-going mental health intervention in the community or management in primary care.

Alongside this gateway role, SCAN was found to have *a therapeutic value that was identified as pivotal by clients*; apparently contributing to the perception that they were being 'taken seriously'.

GPs interviewed described the support provided by SCAN, both overt in terms of assessment/intervention and 'hidden' in terms of informal advice, as 'empowering'. Collaborative working across primary care and mental health was clearly enhanced.

The majority of GPs surveyed rated themselves as confident in assessing and managing patients in suicidal crisis. There was no significant difference between SCAN and non-SCAN GPs in confidence levels.

Greater than 37% of GPs surveyed had undertaken training in suicide/deliberate self-harm and more than 70% had undertaken training in depression. Training significantly positively impacted on confidence in assessing and managing suicidal behaviour.

The majority of GPs surveyed report seeing at least 1-5 patients in suicidal crisis annually. Patients considered to be at greatest risk (i.e. patients with suicidal thoughts, intent to harm themselves and a plan), were most frequently referred by GPs to mental health services or SCAN (where available).

Almost all GPs with experience of SCAN agreed that the SCAN service leads to better treatment adherence than 'usual care' and patients are more readily agreeable to being referred to SCAN.

Overall, GPs with access to SCAN services rated the service significantly higher on its impact on identified patient outcomes than those who had access to traditional mental health services.

SCAN GPs rated the impact of the service on their knowledge and skills in assessing and managing suicidal behaviour significantly greater than colleagues that use traditional mental health services.

The ability to stabilise and manage a suicidal crisis and timely access to a specialist service were the elements of the SCAN service that were ranked as most preferred by all GPs.

The GPs who had access to a SCAN service rated their overall satisfaction with the service as significantly higher than those GPs in the non-SCAN group.

The effectiveness of programmes such as SCAN is difficult to capture using traditional quantitative economics or health services research methods.

There is plausible evidence in both Wexford and Cluain Mhuire that the decline in inpatient admissions since 2008 is related, at least in part, to the introduction of the SCAN service. Under reasonable assumptions about the size of effect, we have found that the SCAN service resulted in a reduction of healthcare costs.

However, it is possible that the SCAN service led to an increase in healthcare costs (taking account of the direct costs of the SCAN service itself). In those scenarios it is still likely that the SCAN service makes sense from an economic point of view, as the SCAN service is likely to have been responsible for an improvement in the health of those referred to it at a relatively low cost.

Recommendations:

GP training sessions in suicide/self-harm should be embedded into continuous professional development programmes provided by their primary care organisation.

Clear guidelines/protocols need to be in place to identify what are, and are not, appropriate referrals to SCAN and how the referral process should be managed.

Clear guidelines/protocols need to be in place to identify who is responsible for follow up following SCAN assessment

The full range of demands on SCAN staff need to be acknowledged and top level management commitment to appropriate governance, support and supervision needs to be maintained and regularly reviewed.

The maintenance of adequate staffing levels for SCAN needs to be prioritised, including appropriate administrative support.

The position that SCAN occupies, what it offers and how it integrates with other services, within a changing and challenging healthcare environment, needs to be clearly articulated, periodically reviewed and constantly promoted.

If the SCAN service is extended to other areas in Ireland, development of agreement as to what constitutes the essential core components of a SCAN service and what components may be varied due to local circumstances needs to be developed. If SCAN is to be rolled out, its chances of being successful are also much higher if, (a) all or most of the GPs in the area support it, and (b) if the mental health services in the area wholeheartedly support it.

If the SCAN service is extended to other areas in Ireland, more consideration needs to be given to tracking the mental health and suicidal behaviour of the service users that are seen by SCAN. The maintenance of comparable databases at each SCAN site would be essential.

If the SCAN service is extended to other areas in Ireland, the encouragement of networking between SCAN services would be highly desirable.

Introduction

A brief history of SCAN

To date, SCAN projects have operated in two areas of the Republic of Ireland. The first SCAN project was established in the Cluain Mhuire service area in the south of County Dublin (a largely urban area) in 2007. This service was offered to circa 67 GP practices locally, representing a catchment area of 183,000 population. This service operated until 2010.

The second SCAN project was established in 2008 in County Wexford (predominantly a rural area). This service is offered to 38 GP practices, representing a catchment area of 132,000 population. This service continues to date. Within the project partnership, both SCAN projects sought to offer a similar primary care response service in the area of suicide/self-harm and to retain similar data for comparative analysis.

SCAN was established in response to the recognition that suicide/self-harm are serious public health concerns; that hospital attendance figures for self-harm represent the 'tip of the iceberg' and that primary care represents a unique opportunity to be pro-active in matters of early diagnosis, intervention, treatment and enhanced suicide prevention for those experiencing personal crises and distress.

SCAN represents a new approach within the Republic of Ireland to the assessment and care management of those in suicide crisis. SCAN projects aim to establish a skilled mental health nursing resource that would:

- Be available, accessible and speedy in providing a response to GP requests for a timely assessment of those in suicide/self-harm crisis;
- Carry out a comprehensive (bio-psycho-social) needs & risk assessment of the client within the GP surgery;

- Work collaboratively in partnership with the GP (and the wider specialist mental health and local community services, as appropriate) to institute a health/social care plan to meet the risks and care needs of the client.

However, SCAN was never a 'one size fits all' service that was provided 'ready formed'. Rather, in seeking to achieve these goals, SCAN can be seen to have developed over time in response to local conditions. Hence, SCAN Cluain Mhuire can be seen to have had two distinct phases during its operation. SCAN Cluain Mhuire phase 1 (2007-9) was characterised by the employment of one SCAN nurse to provide the service; initially operated on a midday to 8pm (approx.) Mon-Fri basis, but later moving to 9am-5pm Mon-Fri as it became apparent that these hours better met GP and client need.

SCAN Cluain Mhuire phase 2 developed upon the initial SCAN nurse departing to take up another role; characterised by 3 nurses taking the SCAN role on a rota basis (i.e. one week in three). However, this appears to have been a somewhat unsatisfactory arrangement. SCAN Cluain Mhuire ceased functioning upon completion of its initial 3 year funding support in 2010. There is some evidence that the SCAN role subsequently became incorporated within an expanded Crisis Assessment Team approach within Cluain Mhuire services. However, the transition from SCAN to CAT does not appear to have been seamless.

SCAN Wexford can be seen to have three distinct phases. Phase 1 (2008-9) represents a 'preparation & research phase', where the service was piloted within the Wexford South locality (21 GP practices; circa 70,000 population) with one SCAN nurse providing a Mon-Fri office hours service.

Phase 2 (2009 – 2010) represents a 'development phase', reflecting upon low referral rates (39 referrals in 8 months) but a high percentage uptake by GP's (90% of GP's utilised the service) with positive anecdotal feedback from GP's. Commitment to the SCAN project led to the service

being made operational across the entire County Wexford area (i.e. 38 GP Practices; circa 138,000 population), available Mon-Fri office hours, with 1.7 whole time equivalent (WTE) staff employed. In addition, SCAN was integrated more with the local liaison psychiatry service at Wexford General Hospital (WGH), so as to contribute to a more 'seamless' 7 day service.

Phase 3 (2010 to date) represents a 'consolidation phase'. SCAN remains operational across County Wexford, currently resourced by 2.2WTE nursing staff; further 'integrated' with the WGH Liaison Services, so as to facilitate a clinically expanded 7 day WGH liaison service, with the SCAN/Liaison service being claimed to be enhanced by the interchange of experience/clinical skills that results.

Activity Profile - SCAN Cluain Mhuire

From records kept at the time, during its operational period (2007-10) SCAN Cluain Mhuire received 159 referrals:

Table I.1: Year on year activity – referrals to SCAN

YEAR	CLUAIN MHUIRE
2007	52
2008	58
2009	63
2010	20*
TOTAL	159

* Incomplete year of activity – SCAN ceased.

- 50% male, 49% female[1]
- Average age: 37 years
- 74% previously unknown to Cluain Mhuire
- Primary issue - mental health: 17%
- Primary issue - 'social issues' (incl. drug/alcohol related): 63%

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[1] 1% unrecorded

NB. 20% unrecorded, which may contribute to the disparity between activity profile in Cluain Mhuire and Wexford (i.e. 17% mental health versus 38% mental health).

- Response time: clients were normally contacted within 4 hours of referral.[2]
- Next Care:
  - o Admission to Hospital: 6%
  - o CMHT (incl. Day Hospital): 48%
  - o Primary Care: 46%

Activity Profile – SCAN Wexford

From records kept to date of review, SCAN Wexford had received 503 referrals:

Table I.2: Year on year activity – referrals to SCAN

YEAR	WEXFORD
2008	41*
2009	122
2010	169
2011	171
TOTAL	503

* Incomplete year of activity– Pilot phase

- 56% male, 44% female;
- Average age: 33 years;
- Primary issue - mental health: 38%
- Primary issue - 'social issues' (incl. drug/alcohol related): 62%
- Average response time: 3.56 working days.

  However, this may be misleading as the average is influenced by a significant number of referrals, particularly of clients already known to SCAN, where a lengthy time between referral and meeting is found. Probably more helpful is to look at the percentage of clients

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[2] Due to deficiencies in record keeping, it is only possible to identify how soon clients were contacted, not how soon they were seen.

seen with one or two working days (Table I.3); within 2 days being the time frame indicated by GPs as their preferred maximum response time.

Table I.3: Referral response times – SCAN Wexford

	2008	2009	2010	2011
> 1 working day	64.86%	45.83%	30.21%	44.00%
1-2 working days	24.32%	25.83%	25.89%	26.66%
TOTAL within 2 working days	89.18%	71.76%	56.10%	70.66%

- Next Care:
  - o Admission to Hospital: 2%
  - o CMHT (incl. Day Hospital): 31%
  - o Primary Care: 67%

Aims and Objectives

Purpose

The purpose of this research was to evaluate the impact of SCAN, from the perspective of service users, primary care practitioners, support service providers and local community mental health teams.

Objectives

The specific objectives of the evaluation were:

1. To explore the experience of the SCAN service from the perspective of service users, GPs, support care agencies and community mental health team members.

2. To ascertain if SCAN assessment is preferable to key stakeholders when compared with traditional emergency psychiatric assessment.

3. To ascertain SCAN response times to referrals by G.P.'s for SCAN assessment of patients presenting in suicidal crisis.

4. To ascertain if SCAN promotes greater use of social care/voluntary resources as compared to traditional emergency psychiatric assessment services.

5. To ascertain if SCAN has improved GP/Primary Care Teams awareness, sensitivity and confidence in dealing with issues of self-harm and suicide.

6. To ascertain if SCAN has enhanced working relationships between primary care and community mental health teams.

7. To undertake a fiscal projection of the cost effectiveness/VFM aspects of SCAN in reducing community psychiatric care / acute bed usage.

Also, a focused literature review, inclusive of policy and espoused good practice models, was conducted by the researchers.

Methodology

In order to evaluate the impact of the SCAN Service and whether the objectives of the service have been achieved, the research team adopted a **mixed method, exploratory sequential design**. Mixed methods combine different qualitative and/or quantitative data collection methods, theories, or analytical methods within a single study. In a sequential exploratory design, the qualitative data collection and analysis precedes and informs the quantitative (supplementary) part of the study. This design involved two phases – a core component (phase one) and a supplementary component (phase two) which provides explanation or insight within the context of the core component. These components were run sequentially. The study was conducted in two phases (see Figure 1).

Figure 1: Sequential Exploratory Design (adapted from Plano-Clarke & Creswell 2008)
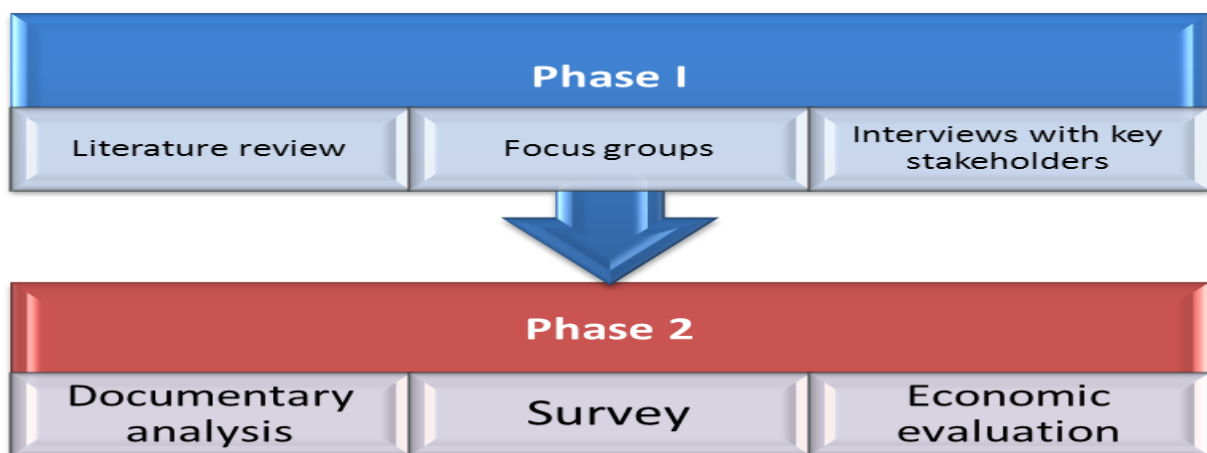
Phase 1:
- Focussed literature review – (1) to inform data gathering; (2) to inform development of key stakeholder survey; (3) to inform evaluation of the SCAN service, including transferability of the SCAN model.

- Face to face qualitative interviews with former SCAN service users – to explore the experience of SCAN from the service user perspective.
- Qualitative interviews with GPs with experience of referral to SCAN (telephone or face to face) – (1) to explore the experience of SCAN from the GPs' perspective; (2) to ascertain if SCAN has improved GP/Primary Care Teams awareness, sensitivity and confidence in dealing with issues of self-harm and suicide.
- Focus group interviews with clinical teams across the two SCAN sites and 1 'matched' clinical team from a non-SCAN area - to explore and evaluate SCAN from the wider multi-disciplinary community mental health team perspective.

Phase 2:
- Key Stakeholder Survey – (1) to ascertain if SCAN assessment is preferable to key stakeholders when compared with traditional emergency psychiatric assessment; (2) to ascertain whether there is an improvement in GP/Primary Care Teams awareness, sensitivity and confidence in dealing with issues of self-harm and suicide; (3) to ascertain whether SCAN has enhanced relationships between primary care and community mental health teams.
- Documentary Analysis of SCAN records – (1) to ascertain if SCAN promotes greater use of social care/voluntary resources, as compared to traditional emergency psychiatric assessment services; (2) to ascertain SCAN response times to referrals by GPs.
- Economic evaluation utilising decision-analytical modelling - to analyze the effectiveness of the SCAN service, by comparing the costs and outcomes of the SCAN service with alternative non-SCAN services providing 'traditional emergency psychiatric assessment'.

Ethical approval.

Ethical approval to conduct the study was sought and granted for each of the individual geographical areas through the appropriate Research Ethics Committees (i.e. St John of Gods; HSE South East; HSE West).

Part 1. Focussed Literature Review

Introduction

This section describes the search strategy undertaken to conduct the focussed literature review into suicide prevention strategies in primary care that could inform evaluation and development of SCAN. It then presents findings from that search.

Methods

The goal of the search strategy was to locate the major resources focused on suicide prevention strategies in primary care and in particular any interventions that appeared similar to SCAN. A search of the computerised databases, CINAHL, PsycInfo and Cochrane library for guidelines, primary studies and systematic reviews published from 2000 to 2012 was conducted using the following search terms in isolation and in various combinations - "suicide prevention", "primary care", "community mental health nurses", "general practitioners" "deliberate self-harm", and "parasuicide". Supplemental literature searches based on initial findings from the data focused on "cost-effectiveness" "crisis resolution" and "community mental health teams".   The websites of International and National relevant bodies were also searched for relevant studies.

A considerable number of systematic reviews were identified which examined recommendations for suicide prevention generally and these are identified and outlined in the review.   The reference lists of these reviews were searched for applicable studies. In terms of primary care strategies, there is strong evidence for the role General Practitioners (GPs) can play in preventing suicide and this is therefore discussed in some depth. As deliberate self-harm (DSH) is one of the strongest future predictors for suicide, a section of the review is given to exploring this topic. Further themes identified from the literature as being relevant to this evaluation, which are thus examined further, are those of community

gatekeepers, community mental health teams, and crisis resolution teams.

Suicide in Context

Suicide is a major cause of death in the EU with about 58,000 suicides per year, of which 75% are committed by men (Hegerl & Wittenburg, 2009). The World Health Organisations's EU member states put suicide prevention on their agenda as a health policy target in 1984 and suicide prevention is now one of five key priorities in the European pact for Mental Health and Wellbeing (European Pact for Mental Health and Well-being, 2008). Approximately 90% of suicides in the EU are believed to occur in the context of mental distress (Bertotle et al., 2004). Depression is the most common mental illness associated with suicide and is already the most prevalent health problem in many EU-Member States; though other illnesses, mood disorders, psychosis, and substance abuse have also all been linked with suicidal behaviour (Ilomaki et al., 2007; Bertolote et al., 2003; Bukstein et al., 1993).

Suicidal behaviour is a major issue and its prevention presents a real challenge to health and social services in Ireland. The National Office for Suicide Prevention identifies that suicide accounts for 1.7% of all deaths in Ireland each year (NOSP, 2009). Suicide rates amongst young men in their early 20s are causing particular concern; the highest suicide rate is for men aged 20-24 years at 30.7 per 100,000, which is significantly higher than the national average of 11.3 per 100,000. However, it must be noted that suicide rates are consistently high for men of all ages up to the age of 65 (NOSP, 2010).

Given the cost of suicide to the economy, finding the financial resources to continue to implement and to evaluate services may well in the longer term prove cost effective. In Ireland, the total cost of suicide is estimated at around 800-900 million Euro per annum (Kennelly, 2007). Expenditure on suicide prevention measures can therefore be justified, given its high

cost to the economy (Kennelly, Evans and O'Shea 2005; Walsh 2008). The challenge for suicide prevention policies is to reach at risk persons with effective interventions (Walsh and Walsh 2011). These interventions must address the factors found to influence suicidality in order to yield significant results.

Influences on Suicidality

Deliberate self-harm may suggest an intention to commit suicide. It is argued that all efforts for suicide prevention should include the prevention of non-fatal suicidal acts (Hegerl et al. 2009). Non-fatal suicide acts, also known as deliberate self-harm, are of real concern to Irish health and social services. In 2011, The National Registry of Deliberate Self Harm recorded 12,216 presentations to hospital due to deliberate self-harm, involving 9,834 individuals with drug overdose being the most common method (National Suicide Research Foundation, 2012). Many other incidents of deliberate self-harm are never reported and thus go unregistered. Non-fatal suicidal acts are considered the strongest predictor for future successful suicide, particularly in males (Hawton et al., 1998). Suicidality and the journey from non-fatal to fatal acts is very complex with many influencing factors including gender, social factors, access to a means and personality factors, such as impulsivity. National Institute for Health and Clinical Excellence (NICE) guidelines on the management of patients presenting to the emergency department with self-harm have recently been published (NICE 2011). These guidelines advocate that personnel, regardless of whether they are clinical staff or not, should have the necessary training to enable them to understand and care for patients who self-harm.

Determination of the reasons why patients self-harm, categorising suicidal deliberate self-harm (S-DSH) versus non suicidal deliberate self-harm (NS-DSH), is assisted through the use of the Parasuicide History Interview (PHI-2) (Maddock et al 2010). With NS-DSH, external damage to the skin was more common, whereas, self-poisoning was more

common with S-DSH (Maddock et al 2010). This is concerning as the National Registry of Deliberate Self Harm in its annual report revealed that drug overdose was the commonest method of self-harm registered in Ireland in 2010 (NSRF, 2011). These findings highlight the importance of raising awareness amongst health care professionals of the correlation between self-poisoning and suicidal ideation. This report identified also that alcohol use was a factor in 41% of all cases and is also an important consideration in relation to patterns of presentations in terms of time and day of week. It is recommended that an enhanced health service capacity be present at specific times; namely, in the hours around midnight and on Sundays, Mondays and some public holidays. This may strengthen the argument for expanding community based mental health services, such as SCAN or some other similar primary care model.

Identifying patients at risk of suicide through psychosocial assessment is an important prevention strategy. National guidelines in the UK recommend that all patients who present to hospital following a self-harm episode should undergo a psychosocial assessment (Murphy et al. 2010). DSH patients discharged from emergency departments without being assessed may be at greater risk of repeated DSH and suicide than those who are assessed (Hickey et al. 2001). While nurses working in emergency departments can undertake this assessment, the assessment can be inadequate if these nurses do not have mental health training (Whyte and Blewett, 2001). Moreover, if the assessment is undertaken too quickly, patients may feel the assessment is routine, rushed, and superficial (Taylor et al 2009). Patients who have attempted suicide have expressed the view that they were made feel like 'time wasters' (Ghio et al. 2001) and humiliated (Harris 2000) by emergency department staff. Encouragingly, attitudes among emergency nurses towards those who self-harm appear to be improving (McCarthy & Gijbels, 2010; McCann et al 2006). Moreover, it is reported that nurses who receive in-service

training in DSH have more positive attitudes than nurses who have not (McCann et al 2006).

Psychosocial assessment of patients who present to the emergency department with self-harm can be ad hoc and requesting patients to be seen by a member of the mental health care team can sometimes depend on the clinical judgement of the staff and their attitudes to those who self-harm. For instance, in an audit of patients who presented to a Welsh emergency department with self-harm, 54.1% (1308) of patients received a specialist psychosocial assessment, and those admitted to an inpatient unit at the hospital were more likely to be assessed. Moreover, the audit revealed that patients presenting on three or more occasions were significantly less likely to have undergone a psychosocial assessment on their first attendance to the emergency department (Barr et al. 2005). Bennewith et al (2004, 2005) and Murphy et al (2011) report similar figures for psychosocial assessments undertaken in emergency departments in English hospitals. The time of day that patients attend the emergency department may also determine if a psychosocial assessment is undertaken, with patients presenting between 7pm and 7am (Hickey et al. 2001), and after midnight being least likely to be assessed (Bergin & Hawton, 2007). In another UK study (Haq et al., 2010), suicide risk factors and suicidal intent was inadequately documented, with no record of a mental health assessment having occurred in all of the 25 cases of deliberate self-harm reviewed. The authors suggest that these poor findings may reflect the pressure emergency physicians feel, namely the four hour target set for patients to have been seen and treated within the emergency department, but they also postulate that lack of adequate training in mental health assessments and risk of suicide could be a factor. In response to the findings of this study, the department in question introduced revised assessment, which incorporated suicide risk factors and assessment of suicide intent in addition to a brief version of the mental state examination (Haq et al., 2010).

Another issue of importance is the ability of assessment tools to establish a patient's risk of suicide. In a systematic review of psychometric assessment of self-harm and parasuicide assessment tools in the emergency department, Randall et al (2011) report that only the Manchester self-harm rule (MSHR) (Cooper et al. 2006), the Implicit associations test (IAT) (Nock et al. 2010), and the Violence and Suicide assessment (VASA) form (Feinstein and Plutchik, 1990) could positively predict self-harm. This is important in the context of SCAN, in that the use of evidence based assessment tools in patient evaluation needs to become routine practice.

The Annual Report of NOSP in Ireland (NOSP, 2006) recommended the placement of psychiatric nurses in emergency departments to respond to the needs of those presenting following deliberate self-harm. The role of the Psychiatric Consultation Liaison Nurse (PCLN) is important in providing short term interventions to patients in general hospital settings. Johnston and Cowman (2008) report that 55% (28/51) of patients referred to the PCLN, in one general Irish Hospital, presented with a parasuicide attempt. Moreover, they report that 47% of all patients seen by the PCLN were new to the mental health services. An evaluation of the crisis nursing service in place at three Cork Emergency Departments was conducted by the Health Service Executive (HSE, 2005). The findings from this evaluation support the continuation of this service and recommend a collaborative crisis intervention model; with interdisciplinary teams including GPs and other allied health professionals, which may be of relevance to community practice initiatives such as SCAN. They also recommend the development of best practice guidelines similar to the UK NICE guidelines on the management of self-harm patients in emergency departments.

Primary care strategies also show some promise in responding to the needs of patients who present with episodes of deliberate self-harm. For instance, the Self-Harm, Assessment, Follow-up, and Engagement (SAFE)

team (three senior mental health nurses) based at a large UK teaching hospital, provides an assessment and brief psychological therapy in the homes of patients who have self-harmed, between 24 hours and 3 days after their presentation to hospital (Murphy et al. 2010). Patients who are not assessed by the liaison mental health nurse or psychiatrist are followed up by the SAFE team; of 717 patients who presented with self-harm, 51% were assessed by the SAFE team (Murphy et al. 2010). Failure to conduct a psychosocial assessment was attributed to non-response to a letter invitation, verbal refusal for an assessment or failure to contact due to incorrect contact details (Murphy et al. 2010). Of the 231 patients in this study who were offered therapy, 73% attended one or more sessions, and the factors associated strongly with attendance were a diagnosis of depression and currently receiving psychiatric treatment with a GP (Murphy et al 2010). Murphy et al (2010) conclude that patients who self-harm prefer prompt management from practitioners with expertise in self-harm; a finding also reported elsewhere (see Hume and Platt, 2007; Warm et al. 2002). The importance of skills training is evident. Gask et al (2006) describe their use of Skills Training on Risk Management (STORM) in risk management of suicide, which resulted in increased confidence and positive change of attitudes among mental health staff towards those displaying suicidal tendencies. Similarly, Jones (2010) describes nurse-led suicide prevention training for multidisciplinary team members in Wales. This latter training also emphasises the importance of empathy and engagement with those presenting in crisis to the health service.

Another initiative introduced recently in the UK is aimed at those patients who present with episodes of self-harm in primary care settings. The National Patient Safety Agency (NPSA) and the Department of Health, have developed suicide prevention toolkits for use by community, emergency and general practice staff (NPSA, 2011). The toolkits contain mini audit packs with specific questions to be answered against a range of

"standards". The key benefits outlined thus far include providing useful management information, informing practice and supervision, identifying non-compliance, sharing best practice, informing practice and supervision, preventing 'silo working' and addressing training needs of staff. It is argued that it enables community and emergency personnel to assess whether they are meeting best practice guidelines in terms of safeguarding patients at risk of suicide (NPSA, 2011).

There are obvious deficiencies in treating patients who deliberately self-harm in emergency departments, and from the studies reviewed above perhaps the involvement of more community based approaches to this category of patient would be advisable. Whether SCAN is a suitable vehicle for this is open to question, as the community models described above are multidisciplinary team based and are referred to primary care after being seen at the hospital. The use of toolkits, depending on their evidence of efficacy as outlined above, is perhaps something that may be of relevance to a service such as SCAN.

Primary Care Prevention Strategies

While primary care is advocated nationally and internationally as the key setting for suicide prevention, comparatively little is known about the services provided in this respect. Strategies aimed at preventing suicide in primary care are challenging and within the literature there appears to be weak evidence for their efficacy. This is attributed in the main to research methodological problems, such as diverse methodologies, poor methodological quality, lack of randomised controlled trials, small sample sizes, inadequate descriptions of study interventions and only a limited number of services incorporating an evaluation component**.** In a systematic review looking at suicide prevention strategies, Mann et al. (2005) recommend that interventions require more evidence of efficacy in order to optimize use of limited resources. It is evident, from the literature reviewed, that no single approach in itself may contribute to a significant decline and many authors suggest that an amalgamation of

different strategies in a multi-faceted approach might prove to be most effective.

Mann et al. (2005) identified five secondary suicide prevention methods as evidence based. These are pharmacological interventions, psychological interventions, follow-up care, reduced access to lethal means, and responsible media reporting of suicide. They highlight in particular the potential benefits of depression and suicide education programmes for GPs and the use of community or organisational gatekeepers. Beautrais et al (2007) support the idea that medical practitioner and gatekeeper education are some of the most promising initiatives in reducing suicidal behaviours, from their review of suicide prevention initiatives in New Zealand.

Role of the General Practitioner

In the past decade there has been a proliferation of suicide prevention research which specifically considers the role of the GP. It appears that consultation with GPs prior to suicide may be common; however, studies have reported different consultation rates. Mann et al. (2005) reported that 83% of suicides had contact with their GPs within a year of their death and 63% had made contact the month prior to their suicide. In the UK, Pearson et al. (2009) reported on the rates of consultation between GPs and their patients with a history of mental illness and suicidal behaviour. In this study, patients had a high rate of consultation with their GP and 91% of them (n=224) consulted with their GP in the year prior to their death. Luoma et al., (2002) reviewed 40 studies with the aim of determining the rates of contact with primary care and mental health professionals by service users before they died by suicide. They determined that 45% of suicide victims had communicated with primary care providers a month prior to their suicide and that older adults in particular had sought help from their GPs. In Ireland, a report undertaken by the Departments of Public Health (2001) suggested that patients did not see their GP for 12 months or more before suicide, with

30% of GPs unsure whether the patients had attended or not. However, more recently, Arensman et al. (2012) reported that 80% of those deceased by suicide had been in contact with their GP or a mental health service provider in the year prior to death, and those who had contacted their GP had done so 4 times or more. They strongly recommend increased suicide awareness education and skills training for GPs.

GPs may be well positioned to deliver suicide prevention strategies (WHO 2010), but are deterred from doing so because they lack the knowledge and skills necessary to recognise manifestations of depression and other mental illnesses (Luoma et al. 2002, Mann et al. 2005, Leitner et al. 2008, Van-der Feltz-Cornelius et al. 2011). It is apparent that GP education is a key factor, with studies identifying that general practitioners' knowledge of suicide risk factors and risk assessment and management is poor (Ritter et al 2002; Milton et al., 1999). This is important as a large proportion of service users who die by suicide appear to present solely with somatic complaints (Isometsa et al., 1995; Harwood et al., 2000) and may not reveal any suicidal intent even on the day of their death.

Saini et al (2010) used the national confidential inquiry suicide database in the UK to collect data from GPs and practice managers in 167 practices. They determined that GPs generally were concerned about the provision for services and training for the prevention of self-harm and suicidal activity. Furthermore, GPs stated there was a lack of support for them following a service user's suicide and that there was difficulty in accessing secondary mental health services. The GPs who were most positive were those who reported beneficial communication and interaction between primary care and mental health professionals.

Another significant issue identified within the literature suggests that GPs and other health care professionals may have negative professional attitudes towards the issue of depression and related suicidal behaviour

(Botega & Silveira 1996; Goldman, Nielsen & Champion 1999). Failure to detect and treat such illnesses contributes to poor symptom control commonly associated with suicidal ideation or suicide itself (Bernal et al. 2007). In this context, improving health care professionals' competencies in the three key areas of knowledge, skills and attitudes are perceived as important intermediate outcomes and should be included in the evaluation of suicide prevention programmes (Hegerl et al. 2008; 2009; Isaac 2009; WHO 2010). Intermediate outcomes should appropriately reflect the objectives and content of the interventions, for example, increased awareness, knowledge, confidence, attitude change, referrals and prescription rates (Mann et al. 2005).

A sound knowledge of the various mental illnesses that are associated with suicidal behaviour enhances GPs' ability to detect and manage suicide risks. GP suicide prevention programmes should include training in the identification and effective treatment of mental health problems, training in the management of suicidal ideation and self-harm prevention, and good access and support from local mental health services (Saini et al. 2010). A fundamental aspect of any GP training programme is the recognition and treatment of depression and suicidal ideation (Mann et al. 2005; Leitner et al. 2008; Saini et al., 2010, Van-der Feltz-Cornelius et al. 2011), in accordance with existing national guidelines (Gilbody et al. 2003; Gaynes et al. 2004). Also recommended is that GP training sessions should be embedded into continuous professional development programmes provided by their primary care organisation In addition, training should be delivered in large groups and divided into smaller groups for role play and should be provided on a regular basis; i.e. 3 to 4 sessions of up to three hours each (Van der Feltz-Cornelius et al 2011).

Three studies that are well cited in the literature which focus on educating GPs on the treatment of depression and suicidal ideation reported a significant reduction in depression, suicidal ideation and suicide: the Gotland study (Rutz, von Knorring, and Walinder 1992), a depression-

management educational programme evaluated in Hungary (Szanto et al. 2007) and the Prevention of Suicide in Primary Care Elderly: Collaborative Trial (PROSPECT) (Bruce et al. 2004). The Gotland study demonstrated a 60% reduction in suicide mortality on the island of Gotland from 1983-1985 following a two-day training programme for all GPs (Rutz et al. 1992). However, this study had a number of limitations; it demonstrated an increase in the prescription of anti-depressants which could have contributed to the initial reduction in the rates of suicide; results pertained to females only, and the effects of the intervention were short lived as suicide mortality rates reverted to pre-training levels four years after the training ceased (Rutz et al. 1992). Initial findings from the Hungarian study (Szanto et al. 2007) were less dramatic than the Gotland study. Adopting a quasi-experimental design, this study conducted a 5-year suicide prevention programme for GPs and their practice nurses in a large rural region with a high suicide rate. The results demonstrated a decrease in suicide mortality in the intervention region comparable with that in the control region. However, there was a 34% decrease in the female suicide rate in the intervention region versus a 90% increase in the control region. The authors acknowledge that "this may be a consequence of the higher antidepressant prescription rates for women in the intervention region" (p 918).

In a randomised control trial (RCT), Bruce et al. (2004) recruited participants from 20 primary care facilities in New York, Philadelphia and Pittsburgh. Following GP training in depression and suicidal ideation in older adults, results indicated a decline in suicidal ideation in the treatment versus the control groups at 4 months. However, whether this trend was sustained is not evident from the study report. Education programmes for general practitioners and other health care professionals in Australia have produced positive outcomes in terms of increased knowledge and skills regarding detection and assessment of at-risk patients, but there is little or no evidence regarding long-term changes in

clinical practice or reduction of actual suicide rates (Naismith et al. 2001; Pfaff et al. 2001).

International depression and suicide prevention training programmes that have integrated the role of the GP include the 'Nuremberg Alliance Against Depression project' (NAAD) (Hegerl et al. 2006), which after a two-year intervention programme, demonstrated a 24% reduction in suicidal behaviour. Following the success of NAAD, the programme was delivered across Europe and is called the European Alliance Against Depression (EAAD) (Hegerl et al. 2008). The EADD programme has not been evaluated as yet and is now incorporated into another new European study; i.e. Optimising Suicide Prevention programmes and their Implementation in Europe (OSPI-Europe) (Hegerl et al., 2009). Ireland is one of the four countries in which this research is currently underway.

In the Irish context, the Protect Life, Health Promotion Agency (HPA) for Northern Ireland devised a training programme for GPs on depression awareness. The programme was delivered to 14% of the total number of GPs in Northern Ireland. A post training evaluation demonstrated GPs had acquired an improved understanding of depression and related treatments. They also reported increased levels of confidence in managing depressed patients (HPA, 2008). In the Mid-West region of Southern Ireland, Skills Training on Risk Management (STORM) was delivered to trainee GPs. The purpose of STORM training for GPS is to provide them with the confidence, knowledge, skills and attitudes necessary to implement suicide prevention strategies into their clinical practices. Another Irish initiative is the HSE (South) "safeTALK" programme to Caredoc, an 'out of hours' family doctor service in the south-east of the country, coordinated by the National Office for Suicide Prevention (NOSP).

Any education programmes for primary care physicians should include content related to the use of anti-depressants and focus on specific

psychiatric disorders and psychosocial factors (Cavanagh et al. 2003). A number of studies suggest there is a relationship between increased antidepressant medication treatment and a substantial decline in rates of suicide (Olfson et al. 2003; Gibbons et al 2005; Simon et al. 2007;). However Mann et al. (2005) in their systematic review reveal mixed results regarding the usefulness of pharmacotherapy in secondary suicide prevention. They outline that there is reported evidence from 27 countries suggesting a positive correlation between the increased prescribing of selective serotonin re-uptake inhibitors (SSRI's), anti-depressant medication and a corresponding reduction in suicide rates. However, having reviewed the results from three separate meta-analyses of randomised controlled trials (Kahn et al. 2003; Gunnell et al. 2005; Fergusson et al. 2005), they report that the analyses did not indicate that anti-depressants alone were effective in the prevention of suicide or suicide attempts. The authors suggest that these findings could have occurred because the estimates of the rates of suicide in the included studies stemmed from a low base of suicidal behaviour arising from inadequate screening and an over reliance on self-reporting. Leitner et al (2008), in a review of 200 primary empirical studies and 37 systematic reviews found that pharmacological treatment contributed to a significant reduction in suicidal risk in people with a history of mental illness. The authors reported that SSRI's were particularly effective in treating depression in the elderly, who are considered an at risk group Furthermore, in light of the chronic and recurring nature of depression and poor medication compliance, there potentially is the need for follow up by a case manager following primary care physician intervention.

GP Screening

Screening programmes aim to assist GPs in identifying individuals who are a suicidal risk and refer them for treatment, as appropriate. Screening programmes have focused on the detection of depression, suicidal acts

and suicidal ideation using valid and reliable assessment tools (Pignone et al. 2002; Mann et al. 2005; Williams et al. 2009). The subjective rating of the severity of depression is one of the most powerful predictors of future suicidal acts, as revealed in a prospective study of the clinical predictors of suicidal acts after a major depressive episode (Oquendo et al 2004). An Australian programme aimed at educating primary care physicians to recognise and respond to psychological distress and suicidal ideation in young people increased identification of suicidal patients by 130% using the Depressive Symptom Inventory-Suicidality Subscale score (Olfson et al., 2003).

However, in his review of screening studies, Gilbody et al (2008) did not unearth any evidence that routine screening for depression in primary care alone improves treatment outcomes and argues that screening for depression is only effective when used in conjunction with adequate follow up care. Furthermore, in another review of screening studies, Van der Feltz et al (2011) suggest there is no evidence that screening for suicide risk in the primary care setting is effective and suggests that future research should focus on identifying at-risk individuals by using the Patient Health Questionnaire (PHQ-9) developed by Kroenke et al. (2001) or other similar instruments. It is apparent that an argument can be made for enhancing GPs ability to detect and treat mental disorders; however, there is an obvious need for longitudinal research studies to fully explore the impact of such prevention initiatives.

Community or organizational gatekeepers

The term 'gatekeepers' is a term used to refer to 'persons who regularly interact with potentially suicidal individuals and are available to recognize important behavioural cues' (Tsai et al., 2011, p. 117). Gatekeepers can be the first contact for a suicidal person and therefore can play a key role in directing a suicidal person to appropriate services, such as counselling (Paris, 2006). At primary level, GAT (General awareness training) on

mental health, with a focus on suicide prevention and gatekeeper training, has shown the potential to prevent suicide among construction workers in Australia (Gullestrup et al. 2011). In a review of six cohort studies, Isaac et al (2009) found evidence to support the role of GPs as gatekeepers. The review reported that when GPs underwent suicide prevention training, there was an associated 24% decrease in attempted and completed suicides. However, the authors caution that the gatekeeper interventions reviewed, were generally just one part of more complex interventions; hence, making it difficult to determine the specific impact of GPs as gatekeepers.

There are many approaches to gatekeeper training. Suicide prevention programmes, not specifically targeted at GPs, include the Skills Training on Risk Management (STORM) and Applied suicide intervention skills training (ASIST) (Rodgers, 2010). Both programmes strive to provide healthcare professionals with the skills and key strategies to enable them to deal with incidences of self-harm and suicide ideation. Additional approaches suggested in the literature are the Standardized Community Gatekeeper Suicide Prevention Training; a one hour training programme (Quinnett, 1995) and a gatekeeping suicide-awareness program for nurses (Tsai et al. 2011). This latter approach has shown that nurses who underwent the training were more aware of the warning signs of suicide and more willing to refer suicidal persons for professional counselling.

As highlighted earlier, a multifaceted approach to suicide prevention is likely required. Voros et al (2009) propose a brief and practical clinical guideline for the assessment and management of patients with acute suicide risk and suicidal behaviour. The guideline also classifies people into risk factors for suicide. Gullestrup et al (2011) describe how they utilised Mrazek and Haggerty's (1994) prevention and intervention strategies as part of an initiative to address suicide among construction workers in Australia. These include universal (promoting awareness and reducing stigma), selective (enhance symptom identification and improve

access to specialised services) and indicated (improve access to specialised services, maximise engagement) prevention strategies, treatment and postvention (Mrazek and Haggerty, 1994). This approach of universal, selective and indicated levels of prevention is utilised extensively in Japan (Lapierre et al. 2011). A similar type model is proposed by Voros et al (2009). However, Voros et al argue that in the management of suicidal behaviour, biological and psycho-social factors also need to be considered before primary care professional gatekeepers manage suicidal patients effectively. This should be noted in terms of SCAN; their nurses to some degree meet the definition of community gatekeepers.

Role of Primary Care and Community Mental Health Nurses

Mead et al (1997) state that there is evidence for an expansion of the role of nurses in primary care, but there is little consensus as to what role would be most effective. Bower (2002) reviewed the evidence of effectiveness of primary care mental health workers and models of working in terms of clinical effectiveness, cost effectiveness, patient satisfaction, and access to care. The data from this review is mixed; suggesting that each model provides different advantages and disadvantages in terms of these four dimensions

In the UK, the NHS introduced a new role in primary care to assist with the management of common mental health problems; the primary care mental health worker (PCMHW) to whom GPs refer patients with common mental health issues. Some older literature reveals some disagreement about the clinical or economic advantage of this role (e.g. Gournay & Brooking, 1995). However, Kendrick et al (2006) found higher satisfaction among clients that were treated by community mental health workers when compared with usual GP care.

Another approach within the UK, Canada and Australia over the last decade has been the development of community mental health teams

(CMHT) which focus assessment and care away from hospital settings. Simmonds et al (2001) conducted a systematic review examining CMHT management compared with standard hospital orientated approaches in the care of patients with severe mental illness. They suggest that there is a reduction in hospital admissions, shorter inpatient psychiatric treatment, reduced costs of care, increased acceptance of treatment, and fewer deaths by suicide amongst patients cared for by community mental health teams (CMHT). The lower use of inpatient services is cited as being the principal reason why the CMHT model, from an economic perspective, is considered superior to other approaches. The authors acknowledge that the results need to be viewed with some caution and that further studies are needed to confirm the validity of their findings. As discussed earlier in the context of GP screening of suicidal patients, the importance of using validated screening tools is also one that needs to be considered. Thompson et al (2008) found evidence to support the use of validated screening tools for mental health disorders in older persons rather than relying on community nurses' views and non-validated tools.

In Ireland, the value of having multi-disciplinary community based mental health teams (CMHTs) is advocated within a Vision for Change (DoHC, 2006). However, the sixth report from the Independent monitoring group on the implementation of Vision for Change found that existing community mental health teams were poorly supported, with an estimated 1,500 vacant posts (DoHC, 2012). They note that these are mostly allied health professional posts and that as a result, the service that is delivered through medical and nursing posts is not based on multiple interventions as envisaged in Vision for Change (DoHC, 2006).

Managing Suicidal Patients in the Community

Managing the suicidal person at home, without admission to hospital is often the better choice, and reduces hospitalisation rates (Guo et al., 2001, Murphy et al., 2012). In addition to the disadvantages related to hospitalisation of the suicidal person, including a higher treatment cost,

there is also a risk of damaging an already established therapeutic relationship with health care professionals and the loss of a person's freedom (Wasserman et al., 2012). Patients report that being cared for at home helped them recover faster and time was spent being listened to (Singh et al. 2010). However, home treatment of a suicidal person requires accessibility to appropriate outpatient treatment follow-up (Wasserman et al. 2012), and a good support network for the suicidal person (Brooker et al. 2007). Moreover, on-going assessment of risk is essential (Brimblecombe et al. 2003). The effectiveness of on-going assessment is demonstrated by Hvid and Wang (2009) where patients who had attempted suicide were followed up by a rapid-response outreach programme for six months, with a significant lower repetition rate recorded in the intervention group.

In terms of suicide prevention, one of the key service recommendations made by the UK National Confidential Inquiry into suicide and homicide by people with a mental illness was that of crisis services and referral sources. In some countries this has resulted in the development of 24 hour crisis teams who promptly respond to mental health crisis in the community, thus avoiding in patient admission (While et al., 2012). Crisis Resolution Home Treatment (CRHT) teams were first established in the UK in the early 1990s, initially offering only a limited 12 hour service (Brimblecombe et al 2003). This type of service has expanded internationally with a variety of descriptions used to describe it. For instance, in Australia, the Hospital and Home (HAH) service was developed as an alternative to inpatient psychiatric care (Singh et al 2010). Interestingly, in Singh et al's (2010) study which explored the workings of a HAH service and who referred to it over a 12 month period, only 1% of patients in the HAH service evaluated were referred by a GP and 26.1% were referred by emergency departments.

A recent Cochrane review by Murphy et al (2012) examined the effects of crisis intervention models for anyone with serious mental illness experiencing an acute episode, compared with 'standard care'. The review suggests that crisis care, where support is provided during a crisis for service users, either in their home or a community setting is less costly and of greater benefit to service users than standard care. The benefits of crisis care identified within the review are similar to those of CMHTS, namely a reduction in repeat admissions to hospital (at three and six months after crisis, in some cases by 50%); improved mental health of service users compared to standard care (3 months after the crisis), increased acceptance, satisfaction, and less disruption to everyday life for service users, families and carers, and a reduction in the stigma associated with hospitalisation. While an encouraging conclusion, it should be noted however, that the review could not detect any differences in death rates between crisis and standard care, though While et al (2012) report that these teams 'may have helped to prevent deaths' (p. 1011).

Overall, the evidence basis for the benefits of CMHTs and crisis care may still be open to debate; there are only a limited number of studies, sample sizes are small, and in some instances there are discrepancies in terms of definitions of 'crisis care' and 'standard care'. It could be argued perhaps that some of the benefits of the CMHT and crisis care models identified above may also pertain to a service like SCAN, since the focus is on assessment and care of patients outside of secondary care settings and nurses would have been an integral part of the multidisciplinary crisis/community teams referred to above. Indeed, the 'valuable' role of mental health nurses in frontline emergency mental care is shown by Brooker et al (2007, p.1314) in their evaluation of a crisis resolution and home treatment (CRHT) team.

Multidimensional Approach

This review has highlighted that a multidimensional approach to suicide prevention is needed, as promoted by the World Health Organisation

(WHO, 2002). National suicide prevention programmes have been set up in many countries. The National Office for Suicide Prevention was set up in Ireland in 2005. The National Strategy for Action on Suicide Prevention "Reach Out" 2005–2014 suggests that there is no one intervention that will deal with the problem of suicide (DoHC, 2005).

A range of suicide prevention strategies are advocated within the literature and include enhancing access to mental health services and improving assessment in attempted suicide (Jenkins and Kovess, 2002). In line with international developments, Ireland's National Strategy for Action on Suicide Prevention – "Reach Out" (DoHC, 2005) advocates for a broad based approach.   One of the specific aims of this strategy is to " support the development of mental health care within primary care services and to develop suicide prevention awareness and skills training for primary health care workers" [Section 11, p.31] (DoHC, 2005). The need for improved information transfer between primary and secondary services is also highlighted in "Reach Out" (DoHC, 2005). Nurses are considered central to the facilitation and implementation of national suicide prevention strategies (Anderson & Jenkins, 2006). The introduction of a service like SCAN is therefore appropriate and in keeping with national and international health policy documents.

Researchers worldwide have completed systematic analyses (Gaynes et al 2004; Mann et al 2005; Comtois & Linehan 2006; Conwell & Thompson 2008; Goldston & Daniel 2009; Isaac et al. 2009; WHO 2010; Van-der Feltz-Cornelius et al. 2011) and focused reviews (Beautrais et al. 2007; Rodgers et al. 2007; WHO 2010) on the effectiveness of suicide prevention studies.   Interventions identified have been classified into three different categories based on levels of available evidence: effective, promising, and insufficient current evidence. In the context of primary care, suicide prevention strategies that have some evidence for effectiveness include the training of GPs in the recognition and treatment of depression and suicidal ideation (Mann et al. 2005.,Leitner et al. 2008;

Isaac et al. 2009), and approaches which involve expanding the role of GPs by training them to become gatekeepers. Some studies also indicate that pharmacological intervention can be of benefit (Mann et al. 2005). However the evidence to support this approach to suicide prevention is questionable and requires more rigorous evaluation.

Van Feltz et al (2011), in their review of six systematic reviews, identified the key elements of best practice interventions for suicide prevention, as follows; (1) the education of GPs in the detection and management of mental disorders, especially unipolar and bipolar depression; (2) public awareness campaigns, provided that an explicit expeditious path to treatment is available; (3) the training of gatekeepers and community facilitators in recognizing suicidality and assisting at-risk people to access suitable services; (4) development of healthcare services targeting at high risk individuals; including organizational measures, such as the availability of appropriate inpatient and outpatient aftercare for patients who have had an episode of deliberate self-harm (5) the training of journalists in conscientious reporting of suicide or the enforcing of media blackouts; (6) limiting public access to deadly means of suicide. They highlight that no results were reported for multilevel strategies or for the "synergistic effects" of multiple interventions when applied together. The World Health Organisation (WHO, 2002) also emphasise the importance of suicide prevention strategies that combine interventions and the importance of evaluating them in terms of both their impact on suicide rates and their cost-effectiveness. A summary of best practice interventions drawn from this literature review are presented in the Table 1.1.

Table 1.1 Summary of international recommendations for present and future suicide prevention initiatives

While et al., 2012	Advocate for 24 hour crisis intervention teams facilitated by community mental health nurses.
Lapierre et al., 2011	Suicide prevention strategies that engage in collaborative care models like IMPACT and PROSPECT are associated with improved outcomes because they provide direct access to depression managers such as community mental health nurses and psychologists. Key components of effective intervention programmes: patient empowerment, the development of a therapeutic alliance between the patient and healthcare professional, personalised treatment plans which focus on patient preferences and proactive follow up, particularly during the acute stage
Rodgers, 2010	Encourage gatekeeper programmes, such as Skills Training on Risk Management (STORM) and Applied Suicide Intervention Skills Training (ASIST), for healthcare professionals.
Drapeau et al. 2009	Future interventions need to be cognisant of gender differences, in that, females are more likely to seek medical help for depression and/or suicidal ideation and engage with and benefit from many of the existing programmes. Males, on the other hand, particularly older men, are less likely to seek medical help for depression and may have a preference for solution focused approaches as distinct from emotion–orientated programmes such as group meetings or telephone counselling.
Heisel et al., 2009	Telephone counselling services have an important role in suicide prevention, in that they provide regular confidential contact with an empathetic person - suggest that telephone services facilitated by trained therapists should be developed to deliver education as well as to detect and treat mental illness.
Williams et al., 2009	Advocate more GP training in the detection, treatment and management of mood disorders, particularly depression and any associated suicidal ideation.
Oyama et al., 2008	Advocate the development and delivery of community-based outreach programmes in rural areas, including mental health workshops which focus on promoting awareness of depression and suicide.
Grek, 2007	Primary care physicians should ensure that they see depressed patients on a frequent and regular basis, as well as monitoring the patient's adherence to and response to prescribed medication.
Gask et al., 2006	More skills training needed for relevant healthcare professionals (e.g. emergency department personnel), which will provide them with the knowledge, skills and attitude required to identify and manage individuals who are at risk of suicide.
Mann et al. 2005	Reduce access to lethal means. Development of a code of conduct for media coverage of suicidal deaths

It is evident from the literature presented that a service like SCAN reflects many of the above principles on several fronts; i.e. provides a fast track referral system to mental health services, provides for the development of a therapeutic alliance between healthcare professional and client,

represents a personalised approach to care, is based in the community and fosters a collaborative approach to care.

In conclusion, any suicide prevention strategy needs to be investigated comprehensively and methodically to ascertain the potential benefits of risk assessment and collaborative working between primary and secondary care. It is in this context that rigorous, robust analysis and evaluation of the SCAN service needs to be viewed.

Part 2. Qualitative Evaluation of SCAN

Introduction

This study employed a mixed method research design (specifically, a sequential exploratory design). This section gives an overview of the qualitative methods used for this project. Information on data collection, recruiting participants, consent and data analysis is provided.

Methods

Semi-structured interviews (face-to-face and by telephone) and focus groups were the qualitative data collection methods utilised. Interviews were conducted with former SCAN clients (face-to-face; n=12), current and former SCAN staff (face-to-face; n=6), GPs with experience of utilising the SCAN service (telephone; n=14), focus groups with community mental health teams (CMHTs) with experience of working with a SCAN service (face-to-face; n=5). In addition, one further face-to-face focus group was conducted with a CMHT from an area with no experience of a SCAN service, so as to explore 'usual care'; i.e. how services conventionally respond to clients in suicide crisis. Each focus group consisted of all available members of the multi-disciplinary team (6-10 members).

Prospective participants were identified and contacted by the nominated local facilitators. All GPs in the two SCAN areas, for which the local facilitators had email addresses, were contacted and invited to participate by emailing the research team (i.e. by self-selection). All relevant community mental health teams were contacted and invited to participate. All agreed to take part. Current and former SCAN staff were identified and invited to participate. One former SCAN nurse declined to take part. Former clients were randomly selected from the SCAN site databases. The local facilitator then contacted prospective clients' GPs to ascertain whether there was any known impediment to their being approached to participate. If the GP authorised contact, the former client

was then contacted by the facilitator, verbally briefed as to the research and their interest in participation was gauged. The contact details of former clients that expressed an interest in participation were then passed on to the research team who subsequently made direct contact.

All prospective participants (GPs, staff, clients, focus group members) received a detailed information sheet and had the opportunity to fully discuss their involvement in the project with a member of the research team. The researchers gave all participants the opportunity to discuss any concerns with other people (such as friends or other professionals). No pressure was placed on anyone, at any time to participate in the study. A minimum of 24 hours elapsed between the potential participant being informed about the study and a decision made about consenting/declining to participate.

Although the focus of the study was to investigate experience of the SCAN service, it was a given that the former clients of SCAN that were interviewed had had personal experience of suicide crisis. Therefore, it was crucial, that the researchers conducting the client interviews should have extensive experience of working professionally with such clients, as well as experience of conducting qualitative interviews. Consequently, all client interviews for this study were conducted by registered psychiatric nurses (Bradley and Smyth) with a minimum of 20 years professional experience each; additionally both had received training in ASIST Suicide First Aid. The researchers ensured that each client interview was timetabled so as to allow sufficient time for engagement/rapport building prior to and for debrief following the interview.

All interviews and focus groups occurred at a time and place that was mutually convenient to the participants and the researchers. Client interviews were conducted on the premises of the client's GP. Each interview and focus group was recorded by digital device, with the recordings transcribed verbatim to facilitate thematic data analysis. Data

management and analysis was supported by use of NVivo9.2 software package.

The overall analytic process was guided by Braun and Clarke's (2006) framework for thematic analysis. The rigor of the analysis was enhanced by having a team of four analysts comparing and defining the themes.

- The first phase of the analysis entailed becoming familiar with the data; the process began with the raw data of the transcripts being coded by four analysts. An initial coding framework was identified.

- The second phase involved attempting to extract meaning by identifying major themes and patterns from the identified codes within the coding framework.

- The third phase of the process involved frequent meetings between the analysts; discussing, debating and refining the emerging codes and themes.

- The fourth phase involved the reviewing of the themes/subthemes by putting them in relationship with each other. There was a perpetual working and reworking of the data until the themes/subthemes became stable and seemed able to account for the presentation of the data.

- The fifth phase involved the initial themes and coding divined from the interviews/focus groups being redefined by two of the analysts and then checked by the other two analysts on the team, who confirmed the reasonableness and consistency of the themes.

Results

This section presents the findings from the qualitative data analysis, presented in terms of the themes and component subthemes developed from the analysis of the interview and focus group transcripts. Indicative excerpts from transcripts are included to inform the presentation of results.

Table 2.1 Themes and Subthemes from Qualitative Analysis

Main themes	Subthemes
Without SCAN	No Alternative but to Admit
	Implications and Consequences
How SCAN Works	Accessing SCAN
	Engagement and Assessment
	Care Pathways and Outcomes
Impact of SCAN	Impact on the Client
	Impact on the Professional
	Collaborative Working
Issues for SCAN	Guidelines and Protocol
	Demands on SCAN Staff
	Support for SCAN Staff
Developing SCAN	Provision for SCAN
	Integration of SCAN
	Promotion of SCAN

KEY: CL=Client; DR=Doctor (GP); SS=SCAN Staff; FG=Focus Group

<u>Without SCAN</u>

This theme includes material where the situation for services without access to a SCAN approach was discussed and elucidated.

> *it's probably a lot of GP's fears to be left with somebody who is quite suicidal and not feeling they have… rapid access to crisis intervention (DR12)*

When explaining their practice prior to the introduction of SCAN, GPs interviewed described concerns when faced with a patient in their surgery, or on a home visit, who they had reason to think may be suicidal. They indicated that this scenario was often stressful for them and that the lack of readily available and accessible 'backup' from secondary services tended to increase their sense of individual responsibility and 'isolation' in such situations.

No Alternative but to Admit

Consequently, GPs identified a 'default position' that they often adopted of 'playing safe' and sending such patients to the local psychiatric hospital, or service; not because they thought that this was necessarily the 'best option', but rather that it was the 'only option'.

> *Before, I think we often as GPs felt we had very little resources other than using a sledgehammer to crack a nut which was basically admit patients (DR06)*

> *We send them urgently to hospital and that will include the ones that we consider... would be okay to wait 24 hours. We'd just send them to the hospital just so that we won't be left with any sort of loose ends (DR09)*

From the perspective of the clinicians receiving such referrals, there was also an acknowledgement of the often inappropriateness of this pattern of activity, within which both the GPs and mental health services were 'caught'.

> *if somebody does end up having acute suicidal ideation… whether it's mental illness or social crisis… Those individuals… might have to be*

admitted to the inpatient unit which at times would be inappropriate if there was a better community-based service (FG06)

This 'inappropriateness' was acknowledged to have negative impacts for all concerned; GPs; services and patients.

Implications and Consequences

For the referring GPs, the implication of this state of affairs was 'delay' and 'uncertainty'. GPs described common problems with the process of referral to on call mental health services; for example, the difficulty of making urgent contact by telephone with the relevant person within secondary services and the frustration that this occasioned.

> *it would have involved a huge amount of telephoning and not being able to get hold of people… the service… really wasn't very good for this sort of patient. It was very bad actually and trying to get urgent appointments was a complete disaster (DR04)*

> *I lost my temper a couple of times on the phone with them because I wasn't getting a response (DR13)*

The other route described by GPs, through which they attempted to contact mental health services when attempting to refer a potentially suicidal patient, was by the use of an urgent fax. This was described as often more initially efficient, as time was saved on telephoning and not being able to get hold of people. However, the consequence of using a fax was described as the uncertainty of the process. How soon was the fax read and by whom? If not by the relevant clinician, how soon was it brought to their attention? Was the fax being actioned? If so, what was the likely timescale and nature of the response? A GP concerned for a potentially suicidal patient was faced with more questions than answers.

> *you can't actually make contact with faxing letters across to hospital departments… you don't know if something is going to be sorted out (DR10)*

Increasingly, as mental health services in Ireland relocate from institutional settings to local health care sites, an alternative course of action for GPs was to send the patient for assessment by mental health services at the local Accident and Emergency (A&E) Department; either faxing ahead or sending a referral letter with the patient, for example in the care of a friend or relative.

However, this route is not without its drawbacks. Staff providing mental health services to A&E described the process as a 'palaver'. The referred potentially suicidal patients may well have had to travel some distance and encounter possibly lengthy delays in A&E. They may have to explain on multiple occasions why they are there; i.e. to receptionist, to triage nurse and/or to casualty officer, to on-call psychiatric liaison nurse and/or registrar. Staff acknowledged this as a less than optimum experience for the patient.

> *Everybody has to go through A&E… but to go through A&E, to turn up at the door of A&E to talk to the receptionist through the glass door… To explain to them I'm here to see a doctor because I'm thinking of harming myself and then having to sit there and go through the whole palaver of A&E, it's just so stressful and so distressing (FG06)*

They also described this 'palaver' as less than optimum for themselves as well. The service staff involved described being in a similar position to GPs; trying to contact the referrer by telephone to gather more information and finding that the GP was not available (had left for the day, on a house call, etc.). Issues around attendant 'social problems' were described as particularly time consuming, especially when staff discovered during assessment that there were 'children involved' that needed to have safety issues addressed.

> *But those patients arriving in A&E can take so much time… you can easily spend one day with one patient and then that takes away from everything else (FG06)*

Another perceived negative impact of the 'no alternative but to admit' approach was described as the de facto development of a psychiatric history that attends the process. Whether appropriate or not, given the perceived incidence of 'social crisis' as a component to suicidality, patients processing through these 'older systems' would find themselves effectively labelled as having a 'mental illness'.

> *In older systems people like this would have been admitted into psychiatric hospitals. They would have had a week or two in the hospital and then they would have from their point of view a mental illness when they don't (FG05)*

How SCAN Works

Having identified how traditional or 'older systems' provide services to those presenting to GPs in some degree of suicidal crisis, how does SCAN work?

> *it's a useful interim to admission or assessment for patients who probably don't actually need admittance. So, I think [of it] as a gatekeeping process of keeping people out. I think it's a very good service (DR05)*

GPs clearly identify SCAN as a point of contact for them with mental health services; as a gateway service. However, this gateway and the staff who act as 'gatekeepers' appears somewhat unusual; in that it seems valued as much for those that it keeps out as for those that it takes in. Therefore, it is important to understand the key facets of SCAN, as described by those who have accessed, operated and received the service, and how it stands in contradistinction to the above described traditional or 'older systems'.

Accessing SCAN

In accessing SCAN, the first facet apparent is that GPs appreciated the advantages of having a dedicated mobile phone number that rendered the service more readily accessible to them. Likewise, clients reported being impressed with the speed of the process.

> *we always found it fantastic in that… we would just have numbers that we could phone directly… if the nurse wasn't available immediately they would always get back to us very quickly (DR04)*

> *The most important thing is to be able to access it quickly. That's the important part. Access quickly (CL04)*

Clients of SCAN also appreciated the prompt response time; describing appointments made while they waited at GPs surgery or being phoned back, usually within the hour, to make an appointment to meet.

> *I couldn't believe how quick all that happened… I think the response time was brilliant… I think, the response time is the major factor in it (CL02)*

Clients also appreciated that appointment to meet the SCAN nurse being arranged at a time and place (usually their own GPs surgery) that was convenient for them.

> *I live in the town here so it was only a ten minute walk over here anyway… It was handy for me because I could arrange a time with her that suited her and my schedule (CL01)*

Clients also recognised that having an appointment to meet the SCAN nurse at their own GPs surgery generally had advantages in terms of privacy and confidentiality.

> *The good thing was I could walk into the doctor and my name was called and nobody knew that I wasn't seeing the doctor. It's a very private thing (CL06)*

However, one client identified a downside to the service being provided at her own GPs and suggested that the offer of an alternative venue would have been advantageous.

> *I suppose the other side of it is that it would have actually been nice if it was in a location not the doctors. I felt slightly uncomfortable that I was walking in past [RECEPTIONIST] who I would know. I felt slightly uncomfortable with that but then that's probably just stigma attached to mental health stuff and I would have gone in there since I was a child. So, I wouldn't have minded if it was somewhere else actually (CL03)*

Engagement and Assessment

Clients described the time spent with the SCAN nurses as positive. They appeared to particularly appreciate the 'down to earth' and practical, focussed nature of the SCAN appointments.

> *My memory of the time with [SCAN NURSE] was really him trying to figure out with me why is this happening now… and asking very clear things around was there any childhood trauma, about my teenage years, trying to get a picture of why is this happening now (CL03)*

However, one client did comment that they would have appreciated more depth to the session

> *it seemed a little bit too rushed for me. Now, they did great work but looking back, yes, that's the one thing I'd mention. We could have dug a bit deeper (CL09)*

Clients also appreciated that the meeting concluded with discussion of resources, action planning for safety and how to move forward.

> *and the plan thing was probably just straightforward really. Who can you talk to about this? Not really my partner at the time because I didn't really feel I had the support. My sister was a support. My mam was a support. (CL03)*

Following the SCAN assessment, GPs reported themselves as being generally satisfied with the quality of the assessments and the feedback they received from the SCAN nurse.

> *gave good feedback having seen a patient... a very quick verbal follow-up following the consultation, followed by a fuller letter (DR05)*

Whilst generally conceived to be a 'gatekeeper' service, a number of clients and referring GPs identified a therapeutic engagement dimension to the SCAN assessment.

> *It was a very positive experience. It was emotional but she helped me a lot. She helped me to say things, made me feel comfortable enough to say things even though I'd never met her before that (CL08)*

> *I think it's very therapeutic in itself… it's not just the SCAN nurse kind of gleaning the bits of information from them and trying to assess their risk. I mean, it's also quite therapeutic… free of charge which is important for people (DR01)*

Care Pathways and Outcomes

After the assessment and alongside the action planning, three care pathways are identified as following from SCAN engagement and

assessment; i.e. admission to a mental health facility, referral to a community mental health team for ongoing intervention for identified mental health needs and management in primary care (GP follow up and/or referral to appropriate counselling/support).

> *There's three… care pathways. Obviously admission, intervention in the community mental health teams, remaining in primary care, counselling services (SS01)*

Whilst SCAN had a clear role to play in assessment and referral to inpatient or community mental health services, participants identified particular strengths in identification and referral to appropriate community based counselling/support services. This would indicate that the outcome for the patient was also positive

> *they would have better access then to any sort of follow-on care and organising or recommending follow-on care. We don't really have the degree of access in general practice (DR10)*

> *he then recommended [COUNSELLING SERVICE] which is close to where I live…. you only pay what you can afford to pay to see them… he'd arranged… for me to go down there and be seen by someone... (CL12)*

> *we had some very good services that allowed us to access… if they had seen the SCAN nurse… they would be offered a much earlier appointment within a couple of days. (SS04)*

Impact of SCAN

Having identified how SCAN works, it was evident from the findings that the impact of SCAN was important. The impact of SCAN refers to three distinct components; i.e. the client, the professional and on collaborative working. In other words what is the impact of SCAN on those who refer to, operate within and receive the service?

Impact on the Client

> *I think without them I suppose I wouldn't have known what road to go…*
> *without the help that I got I wouldn't be here today and that is the truth*
> *(CL04)*

Clients unanimously described their engagement with the SCAN process as pivotal in their personal journey; that they had come to some sort of crisis point in their lives and that being met with a prompt, respectful, caring, personal response had been 'life changing'.

> *I felt she [PRACTICE NURSE] was someone who was taking me seriously*
> *and it was nice to be taken serious by the GP and great to be taken*
> *seriously by [SCAN NURSE] and then great to be taken seriously by the*
> *counsellor (CL03)*

The concept of being 'taken seriously' was apparently important. Clients reported that their GP listening to them and signifying that they were concerned for them by the act of calling in a 'specialist nurse' (as all knew the SCAN nurse) was highly significant for them.   Although, SCAN nurses do not appear to have been aware of this dynamic at the outset:

> *We actually became mindful that… the GP actively listened to the person*
> *and responded to them and making arrangements was an intervention in*
> *itself… gave the patients a sense of well, actually people are taking it*
> *seriously and this is good and if I see the nurse in two or three days' time,*
> *that's fine. (SS02)*

Clients also reported being clearly aware that, although they came to know that the SCAN nurses were 'psychiatric nurses', the fact that they

were seen in the GPs surgery on a one to one personal level acted to reduce perceived stigma.

> *that's another reason to access SCAN because it's taking away that oh, for the rest of my life now I'm going to be classed as mentally ill (CL04)*

Impact on the Professional

In clear contradistinction to GPs descriptions of their 'without SCAN' experiences, they identified that through engagement with SCAN they had become much more confident in dealing with patients presenting in suicidal crisis; concluding that they provided a 'much more satisfactory' service as a result.

> *it empowered me to deal with suicide and intervention of suicide crisis… I can now feel as a GP I have resources to deal with crisis and suicide crisis or the expression of suicide ideation and it just has revolutionised my management… I'm recommending it to all my colleagues (DR06)*

> *the provision of service to people who are acutely upset and who have declared that they might actually harm themselves, has made the management of that particular group of patients much easier and much more satisfactory (DR04)*

Interviewed SCAN staff described gaining a sense of personal and professional satisfaction from their role.

> *it really kind of honed in on your skills and actually developed them… I liked the fact that you looked at keeping people out of mental health service… it was about not bringing people into mental health service that really didn't need to be there (SS04)*

They also identified that they had developed in their own confidence and skills through the training and learning that they had accrued as SCAN nurses.

> *one of the benefits to myself, my own personal career was that I'm a lot more comfortable around people who are saying they are suicidal and I'm a lot more comfortable to hold that (SS03)*

Conversely, they did identify that one downside was that the role tended to be short on the ongoing engagement, relationship formation and 'follow up' that they had been used to in more traditional mental health nursing roles; a number commenting that at times they missed this dynamic to the SCAN role.

> *That's one of those things you don't know about. You don't know. You don't get the follow-up necessarily. You don't hear back how those people have done afterwards (SS05)*

Focus group members particularly highlighted the learning that the SCAN nursing project had brought to the wider mental health workforce; the understanding that only a percentage of potentially suicidal clients presenting to GPs had identifiable mental health needs and that many were more helpfully identified as in 'social crisis' and pointed to services appropriate to those needs.

> *what has become clear is that perhaps not everybody who is suicidal needs to access mental health services… you run the risk of maybe over-pathologising… it's not necessarily… about bringing people into mental health services but actually accessing appropriate services…. that suicide is not necessarily a mental health issue per se (FG04)*

Collaborative Working

All professional participants identified improvements in working relationships as a result of the SCAN project. Collaborative working, as described by participants, appears to have three dimensions; triad working, linking of services and building relationships.

Although the power relationships may not be equal, there is clear description of tripartite involvement in SCAN; partnership between GP, client and SCAN nurse

we work as a triad… three people empowered here dealing with this person's crisis… the patient themselves… the GP who they know and who they've seen and maybe know very well and… this SCAN nurse. So, any decisions that are made… the clinical collaboration is between myself and the GP but the collaboration of meeting risk is a shared collaboration between the three of us (SS02)

The SCAN nurse and myself agree what the treatment plan would be and then we organise various aspects that we actually have to follow (DR06)

he was running through options… The ball was totally in my court (CL12)

As indicated by the descriptions of some of the issues 'without SCAN', something of a 'gap' is perceived to exist between primary care and secondary mental health services. The SCAN service appears to function to some extent across that 'gap' and is appreciated as a linking service between primary care and secondary mental health services.

I feel the SCAN service has become a valuable part of our service and it has bridged a gap between primary care and ourselves as a secondary mental health service (FG02)

In contradistinction to the relative anonymity of the referral process described 'without SCAN', GPs and SCAN nurses describe emergent positive working relationships that result from working together to manage risk and care.

you can develop a relationship with somebody like that where you're referring on a kind of consistent basis on to the same service (DR12)

This may be particularly important for single-handed GPs who do not have access to collegiate support within the practice.

It's nice to have colleagues to talk to and that kind of thing about it. Here, I suppose it's not such a big issue because we're in group practice. We can talk to each other... I'd imagine if I was in single-handed practice that it would be great to have another colleague to talk (DR07)

<u>Issues for SCAN</u>

This particular theme was strongly identified with issues that, whilst also pertinent to the establishment of new SCAN services, were particularly relevant for existing SCAN service; namely, guidelines and protocol, demands on SCAN staff and support for SCAN staff.

Guidelines and Protocol

All professional participants were clear that a SCAN referral is suitable when a client is expressing suicidal ideation, with or without some degree of planning, but is not suitable if the risk is very high/imminent.

> *in a very acute situation, SCAN won't be an appropriate service anyway (DR03)*

> *It's not a replacement for an urgent admission and it's not a replacement for routine follow-up… So, the SCAN team is excellent for that sort of vulnerable patient who just needs to be sorted out and looked after properly in the first 24 hours (DR09)*

However, timely response and engagement with the patient needs to be maintained.

> *but it is very important that it remains we can get patients dealt with in 24, 36 hours. It's no use to me if they can't see them for 48 hours or beyond that. It's absolutely no use to me (DR09)*

There are, though, reasonable practical issues that need to be considered when appointments are being arranged that may impact on this timeliness.

> *Speedy and responsive are kind of active words and it sounds as though you're a kind of caped crusader and you're saying I'm on my way. But we found… there's practicalities to be considered. Practicalities from the patients' point of view when are they available to be seen, the same day, next day, later in the day? Quite often they had work to go to or… practicalities of arranging it from a GP point of view, because we're*

looking to use the GP's space… I have a spare room but it's not available until the next day or the day after (SS02)

Although when considering 'how SCAN works', guidelines and protocol were identified that suggested that referral to SCAN was by direct telephone contact (GP to SCAN nurse), it appears that this is only one route used by GPs to contact SCAN. SCAN appears to also accept referrals via an alternate route; i.e. having referrals redirected to them from community mental health teams that have received them.

with SCAN there's kind of two points. So, you take some directly from the GP but then some would just be referred generally to [MH SERVICES] and then the team… if it said suicide in it, they'd pass it on to SCAN (SS05)

There are a number of possible explanations offered for this alternate route usage; from unawareness of the SCAN protocol concerning direct contact to the need for GPs to be periodically reminded of the primary route. This may be particularly important at times when services are being reconfigured.

Maybe they [GPs] need to be reminded again that direct contact is most important… we've had… significant change in the last couple of years with the closure of our acute unit in the county so GPs and primary care stakeholders… are still adjusting to that change. So, there's probably a little bit of confusion there still in terms of what's the right protocol to refer to SCAN (FG02)

GPs tend to support this second view and identify the need for updating on service alignment, guidelines and protocol(s):

it may be helpful to have more communication about… an overall description of the service… in conjunction with an overview of… local services available (DR10)

There is mixed evidence as to the protocols being followed by SCAN nurses when it comes to follow up of clients following SCAN assessment.

SCAN nurses reported always making their SCAN mobile number available to clients, which many clients verified:

> I still have the number on my phone to this day, just in case (CL08)

Nevertheless, some clients reported that they didn't have access to the SCAN nurses following the assessment meeting.

> I didn't have any contact after it… the only thing that was on the downside was I had an hour with [SCAN Nurse] and I didn't have… any more…. I would have liked to phone [SCAN NURSE] and I can't because I didn't have her [number] (CL06)

> I think maybe in that space of the two months I was referred to [counselling service], there could have been more help. There could have been… someone I could have seen once a week or twice a week, because as I said I was kind of left on my own for two months (CL09)

Whilst all GPs described themselves as more than satisfied with the quality and comprehensiveness of the SCAN reports provided, there was concern that their very comprehensiveness might also be a weakness; taking too long for a busy GP to read in their entirety.

> I think possibly some of the reports that they send out are a little bit long and maybe… Sometimes smaller is better (DR01)

Demands on SCAN Staff

Whilst identifying many positives to the role of SCAN nurse, interviewees were mindful of the stresses concomitant with spending their working lives engaging with suicidality.

> stress… it's always the ones that you don't worry about kind of bite you. That's sod's law, isn't it? So yeah, you do carry that sometimes (SS02)

SCAN staff also identified a number of ways in which the role could ask for a level of commitment over and above the norm.

while you might be nine to five, if that phone rang at 5 O' Clock, then you had to deal with it which could take an extra hour (SS04)

Whilst identified as a positive facet of the service, the provision of the SCAN mobile phone number to most clients as a form of back up was also acknowledged to come with potential drawbacks for the SCAN staff themselves in terms of them being potentially 'on call'.

People who we have seen or people who we are about to see, they sometimes have access to our telephone number and they can ring if they're in distress… depending on the time in the evening... We never leave it. We'll do something whether it's a phone call or text message or forward it on if it's very, very serious. It's never left (SS01)

Another demand on SCAN staff that could be easily overlooked is what might be termed 'hidden activity'; i.e. the finding that SCAN staff are very willing to make themselves available to provide telephone support and advice to GPs.

I would have some sort of contact with SCAN... on about once or twice a month… Either because of a new patient or equally asking for advice on how best to manage or expedite treatment for an ongoing patient... They're never afraid to give advice and help… you could always have a chat… and you could just run things by them (DR02)

However, as the same GP noted, this willingness could become a 'two edged sword'; being both highly valued and a potential threat to the quality of the SCAN service at the same time.

So, they were a resource which is broader than their remit… I sometimes worry that the service… will start to degrade like too many other great things…The staff that are in SCAN at the moment have been well chosen but the problem will be because they are very keen to engage with whatever problem is laid at their doorstep, they could easily overload themselves… and that would actually diminish the quality of the service (DR02)

Support for SCAN Staff

SCAN staff described themselves as being generally very well supported in terms of access to and availability of clinical backup, should they need to consult with a senior colleague over a particularly difficult referral.

> *we could ring the consultant psychiatrist on the mobile and discuss cases… you're backed up by the team behind you… I've never felt isolated… Our ADON is very supportive and more than happy to pick up the phone if ever there's a problem (SS01)*

The need for this backup and the value that senior colleagues place on providing support to the SCAN nurses for the service to function effectively was also highlighted.

> *All my consultant colleagues, they back this 100%... they are available for quick calls in a timely manner… when one SCAN nurse calls us… we make ourselves available very quickly. I think if you didn't have that… it could fall down (FG01)*

Direct governance and ongoing formal supervision for the nurses providing the SCAN service appears to be functioning adequately; governance and supervision from within an identified existing mental health team structure appears to be both important and valued.

> *one of the advantages of SCAN was that one consultant who was the liaison consultant of the service took responsibility for the overall governance and supervision of the service and I think that worked very well because it fits very well… into a liaison model (FG05)*

> *We had a meeting on a Friday which was invaluable. Absolutely one of the most important parts of the entire service was the Friday meeting where we discussed all of the assessments from that week the liaison were there as well so it was very constructive and supportive and you know, people would disagree or agree or whatever very openly and it was very, very useful. So, that helped kind of get rid of that baggage from the week before the weekend which was very good personally but also professionally (SS06)*

Having said that the SCAN nurses interviewed were overwhelmingly positive about the immediate backup, formal supervision and governance that they have received thus far, there is evidence that those responsible for SCAN services should constantly keep staff needs under review in these areas:

> *when the tragedy happens, when there's a suicide death of somebody who has been through SCAN… I think we need to improve and look at that… it still is ad-hoc.. If we're going to put SCAN nurses in dealing with this sort of stuff and we do have our losses to suicide… it needs to be about how do we respond at a personal level to those people who are affected… How do we look after those workers who are working in the coalface frontline? I'm not sure what the answer is, but I know there needs to be something because it will burn us out. That will make us cynical or make us medically defensive. The creativity will go if we don't have that (SS02)*

Another dimension to 'burnout' is the question of how long it is advisable for an individual to operate within the potentially stressful environment of suicide crisis nursing. Again, there is evidence that those responsible for SCAN services need to constantly keep staff needs under review in these areas:

> *If you're doing this type of work, should you do it for X period of time or should it be something you make a career of or should it be something you do for possibly two or three years and then move on? I'm not sure what's the way forward on this one…. I think the smart thing would probably be to rotate. You know, that's something you do for a couple, three years but by God you get an amazing amount of experience out of it and then use it in wherever else is your next port of call, you know, the next part of the service. We haven't gotten around to taking a look at this as yet (FG01)*

Developing SCAN

This theme identifies issues that are particularly pertinent when considering the possibility of SCAN being 'rolled out' across the country; in terms of provision for SCAN (resourcing), integration of SCAN (in relation to other services) and promotion of SCAN (to GPs and potential clients).

All interviewed clients, GPs, SCAN staff and mental health team members were positive concerning SCAN and indicated that they believed that it should be a service made more widely available.

I didn't realise until you told me that it's not throughout the country. I just presumed it was everywhere. All over the country… because it is such a great service (CL12)

However, there was acknowledgement that the task of developing SCAN in other areas would not be without challenges. Issues were identified that would need to be considered when planning implementation in other areas.

if you had the same thing in a rural area like Donegal... It could be quite different (FG05)

Provision for SCAN

Interviewees and focus group members were unanimous that ongoing, active 'top level' vision, commitment and support were vital for a SCAN service to be established, thrive and survive.

> *it needs… full backing from the management team… full backing from the clinical leads and the organisational side of things… you could set this up in other places and it could look just as good as it does here and it could disappear just as quickly… it's only as we move through and develop it that it's shown its worth but in those early stages if it wasn't taken care of so to speak, I think it could be dropped very easily (FG01)*

This was identified, not only as an organisational and service imperative, but also as a pre-requisite for SCAN nurses to be able to function effectively; i.e. to feel 'safe and secure' in what was identified as a challenging role.

> *If you don't have, certainly the senior kind of clinical and senior management levels as in line managers for nursing, ADON through director, if they don't get it, nurses are very, very vulnerable (SS02)*

When the SCAN service was originated, one nurse was initially employed in the role and there were concerns expressed as to whether this was less than ideal from the perspective of the nurses being asked to work 'solo' in this respect.

> *I definitely think working as a team rather than as an individual would probably be beneficial... having someone there to bounce off who is doing the exact same role as you is very helpful (SS03)*

> *My concerns are that one nurse providing that support to the GPs… one person you can't stretch that far (FG06)*

Concerns were also expressed at the organisational level that employment of sufficient nurses needed to be provided, so as to ensure continuity of an effective, available service.

> *the SCAN service is a very valuable service and it should if at all possible be given priority for staffing. I know sick leave is unavoidable but annual leave there should be some commitment from management to cover if at all possible (FG02)*

The issue of the 'skill mix' for employed SCAN nurses was also addressed. The need for SCAN nurses to have considerable experience in mental health care generally, with particular experience in roles with an 'independent', clinical judgement component was highlighted.

> *another thing that's important is if you didn't have people that are trained in a mental health background… you need a very experienced person*

really and experienced in mental health… very kind of steady within themselves and I think you need that kind of inner fortitude if you're going to be dealing with suicide (FG01)

Although acknowledged as always likely to be an ongoing resource issue, the need for GPs to be aware of the need to consider availability within the surgery building of an appropriate room for use by SCAN nurses when meeting referred clients was identified.

a lot of surgeries around here would be one-room surgeries, so that was probably one of the biggest things… times where the GP didn't have space (SS03)

SCAN services appear to have commenced without dedicated administrative support, with the need for such support being identified as the service developed. The lesson identified was that some form of dedicated administrative support should be factored in to the establishment of future SCAN services.

with the paperwork it diminishes the time you can spend in the clinical setting… we have admin support. It's part-time admin support. It has improved, you know, the amount of time we need to spend doing the database and things like that that we would have been doing initially so it has freed up more time (SS02)

The only thing that may help sometimes is that if there was a dedicated secretary instead of leaving a message on an answering machine (DR06)

The advantages to establishing a common 'identity' for SCAN services in the future was commented on. Issues such as networking between SCAN service staff and management, agreement as to the 'parameters' of what constitutes the core components of a SCAN service and what constitutes components that may reasonably be varied in response to local conditions were highlighted. Also, the desirability for all SCAN services to maintain records to an agreed format, so as to allow for amalgamation and

comparison of data for future audit and/or research purposes was also recognized.

> *if it's going to go forward… keep them connected… if we're going to operate SCAN services, we want to keep evaluating and keep reviewing them, then let's have a common foundation of how we approach the job and let's have a common foundation of what data we keep… part of the SCAN network (SS02)*

Integration of SCAN

The place of SCAN within services more generally was an issue that was commented on. Whilst SCAN operates in primary care, in the sense that referrals, appointments, assessments and initial decision making all take place in the primary care arena, concern was expressed that SCAN not be viewed as potentially amenable to being 'moved' wholly into primary care. However, consensus as to exactly where SCAN is best based within secondary mental health services was not apparent; with advocates for SCAN sitting alongside liaison services or within a crisis assessment team approach being heard.

> *SCAN is positioned off centre of the core mental health services. It's part of it but it's an outlier is probably a better way of putting it…. but it's very well governed and very well supported. So, if it's going to move forward, it's on that verge between the specialist psychiatric services and primary care. So, it's right on that cusp… The approach and the skills and competencies people have, you can maybe use them in other areas within the secondary care services. Liaison is the most obvious one. You could draw this service into liaison. Equally, you could draw this service into a crisis team or an outreach team (SS02)*

SCAN assessments were praised by secondary mental health service members. The quality of the assessments and attendant paperwork were identified as sufficient for services to expedite response for the SCAN assessed clients who required urgent admission or longer term community mental health service follow up; i.e. removing the need to

conduct a second assessment and thus reducing some of the drawbacks of A+E. This expedited access appeared to be another advantage of maintaining SCAN governance and supervision within secondary mental health.

> *there's an excellent write-up done… we recognise the service and the assessment as a good standard. We see it as an equivalent to our own intake assessment and we don't duplicate the assessment in any way because the quality of it is good enough for us to proceed with (FG01)*

As well as consideration of how SCAN 'sits' at the 'cusp' of primary care and existing adult mental health services, one interviewee identified that SCAN does not currently offer a service to young people and noted this as a shortfall that might be usefully addressed in due course; i.e. for possible future research and/or dialogue between SCAN services and child and adolescent mental health services.

> *The other shortfall… We do get inquiries about the under-seventeens, from sort of twelve years up to seventeen… we do get inquiries from GPs, from schools, from social workers, from parents saying they are concerned about their son who is fourteen. So, that's a limitation of it (SS02)*

Promotion of SCAN

Whilst the need for promotion of the SCAN service to GPs on an on-going basis, particularly during times of service change and development, has been previously identified (see 'issues for SCAN'), the need for new SCAN services to be 'promoted' to local GPs was also highlighted.

> *we were lucky enough to have a proactive GP who came onto our steering group… he was a very good advocate among his peers… another senior GP who is in charge of the post-graduate education training…invited.. a SCAN nurse to come along to one of the postgraduate evenings… gave… five minutes to talk… gave… a chance to say hello… handed out one leaflet… promotion of the service… If you're concerned about anybody who is stressed or suicidal, call this number. At the end of the meeting I had a*

chance to mingle with them. So, they could put a face to this service and a face to this telephone number. I think it's because of the lead GP, lead postgraduate GP and having an evening with them and putting a face to it (SS02)

One other aspect pertinent to 'promotion' of SCAN services was also identified; the need for members of the public to know more generally about the availability of a service such as SCAN that can be accessed via their GP.

I think it should be more accessible, more advertised for people. I think a lot of people don't know the help is there and they should know it's there (CL08)

Summary and Conclusions

The qualitative component to the research evaluation of SCAN has identified a number of important themes. Without SCAN, all professionals recognised that referral and/or admission to mental health services was often a 'default' position; necessitated more by lack of appropriate community based facilities than by clinical need. Clinicians were frustrated by the delays and uncertainty that regularly accompanied the process of referral/admission, whilst an unnecessarily cumbersome process and the de facto development of a possibly inappropriate psychiatric history could be the outcome for clients.

GPs, clients and CMHTs described SCAN as providing a valuable, accessible and timely gateway between primary care and mental health services; allowing for expedited admission, referral for ongoing mental health intervention in the community or management in primary care. Alongside this gateway role, the service was found to have a therapeutic value that was identified as pivotal by clients; apparently contributing to signifying that they were being 'taken seriously'. GPs described the support provided by SCAN, both overt in terms of assessment/intervention and 'hidden' in terms of informal advice, as 'empowering'. Collaborative working across primary care and mental health was clearly enhanced.

A number of issues were identified that need to be considered by the existing SCAN service and any future SCAN (or SCAN-like) services that might be developed. Clear guidelines/protocols need to be in place to identify what are, and are not, appropriate referrals to SCAN and how the referral process should be managed. The full range of demands on SCAN staff need to be acknowledged and top level management commitment to appropriate governance, support and supervision needs to be in place and regularly reviewed. The maintenance of adequate staffing levels needs to be prioritised, including appropriate administrative support. The position

that SCAN occupies, what it offers and how it integrates with other services, within a changing and challenging healthcare environment, needs to be clearly articulated, periodically reviewed and constantly promoted. Development of agreement as to what constitutes core components of a SCAN service and what components may be varied due to local conditions, networking between SCAN services and the maintenance of comparable databases were also highlighted.

Part 3. Quantitative Evaluation of SCAN

Introduction

This section of the report presents the methods and results of the quantitative phase of the evaluative study, which was undertaken using an online survey. The survey collected data on the views of General Practitioners (GP's) in the two SCAN sites, Cluain Mhuire Community Mental Health Services and HSE South East, and of GPs in a comparison site who had no experience of the SCAN Service and instead used the usual Mental Health services in caring for their patients in suicidal crisis.

The aims of the survey were to:
- Identify the perceived level of awareness, sensitivity and confidence among General Practitioners in dealing with issues of self-harm and suicide;
- Ascertain GPs perceptions of the value and outcomes of current available suicide crisis assessment services;
- Identify, in the opinion of General Practitioners (GPs) if SCAN assessment is preferable when compared with traditional emergency psychiatric assessment.

Overview

A descriptive survey methodology was used to ascertain GPs perceptions of suicide crisis assessment services to which they had access. Surveys can be designed to measure events, behaviour and attitudes in a given population or sample of interest. A descriptive survey is used to obtain information on the current status of phenomena so as to describe 'what exists' with respect to variables or conditions (Sim and Wright, 2000). Descriptive surveys are also carried out to describe populations, to study associations between variables and to establish trends and possible links between variables (Polit and Beck, 2004). Characteristics of particular individuals, groups or situations are highlighted and the association

between differing variables can be explored and illuminated (Graziano and Raulin, 2000).

Questionnaire development

A survey instrument was designed specifically for the purpose of meeting the study aims. A number of steps were taken to ensure face and content validity of the questionnaire. Firstly, an extensive review of the literature was undertaken to identify operational definitions of suicidal behaviour and factors that impact on the assessment and management of suicidal crisis including practitioner skills, access to mental health expertise, training needs, communication and interfaces between primary care and mental health services. Secondly, data derived from key stakeholders during the qualitative phase of the study (i.e., focus groups with clinical teams, semi-structured interviews with service users, SCAN nurses and telephone interviews with GP's) was used to generate items for the questionnaires.

As one questionnaire was used for both SCAN and non-SCAN GP's, consideration was given to the sequencing of questions to facilitate ease of completion (Cox 1996). Skip logic technique was employed for items relevant to SCAN and non-SCAN GP's. Skip logic, or conditional branching as it is also known, allows changes to the course in questions that participants take through a survey based on answers that they give to certain questions (Manski & Molinari, 2008). This is achieved by creating skip rules that direct participants to a certain page based on their response(s) to marker questions. This reduces the likelihood of frustration on participants' part which might otherwise be caused by asking participants potentially irrelevant and inapplicable questions (DeVera *et al.*, 2010; Bradburn *et al.,* 2004).

In the survey, GP's were automatically skipped to the next question relevant to them based on their answers to lead questions around training

in self-harm, training in depression and whether or not they had experience of SCAN services. The length of the questionnaire and the time required for completion was also an important factor considered in the design and pilot stage as response rates correlate with completion time (Edwards *et al.,* 2002).

Expert validation of content and process was used to assess content validity. A panel of seven individuals with extensive experience in research was convened. Panel members had expertise in questionnaire design and online surveys and some members also had substantial clinical experience of working with clients with suicidal behaviour in mental health services in both Ireland and abroad. The content validity of the instrument was achieved by calculating a content validity index (CVI) (Lynn 1986) whereby experts were asked to rate the relevance of each item for potential inclusion on the instrument. Panel members were asked to review the questionnaire and indicate whether the draft survey items were valid, understandable, practical and relevant to the objectives of the study. Statements were retained when five or more of the experts agreed that it was valid, understandable, relevant and practical. If a statement/question was deemed valid and practical, but not understandable, it was reworded and re-reviewed. Statements/questions that were deemed invalid or impractical by three or more of the panellists were reviewed and re-worded or removed. Experts were also asked to identify any additional items that had not been included in the questionnaire, which they considered important to include.

The questionnaire included 46 items (Appendix 1). Items 1-20 were to be completed by all GP participants and included demographic details, questions around confidence in assessing suicidal behaviour, previous training in assessing and managing suicidal behaviour. Other items related to conceptualisation of suicidal crisis, normal response to patients who present in suicidal crisis both in and out of hours, suicide crisis

assessment services provided in the area and the average number of patients seen in suicidal crisis.

In total, SCAN GPs were required to complete approximately 30- 37 items depending on whether or not they indicated that they had undertaken training in self-harm and depression management. Non-SCAN GPs were required to complete items 1-20 and items 38- 46 (total 26 items). The questions included a combination of categorical and Likert scales with opportunities given to allow participants to add qualitative comments on their experiences of the suicide crisis assessment services available to them. Following revisions in item wording and presentation, a pilot study was carried out with the purpose of testing the questionnaire for any ambiguity in statements, overall clarity and clarity in relation to instructions.

The questionnaire was piloted with a group of GPs selected purposively from the total target survey population in both SCAN and non-SCAN sites. Letters of invitation were sent electronically to these potential participants outlining the aims and objectives of the study. They were informed that the purpose of their participation was to evaluate the instrument that was going to be used in the survey and to provide feedback to the researchers. They were informed that they would not be part of the main study. Eight participants were invited to participate and seven complete responses were returned.

Following analysis of pilot feedback, it was evident that participants had difficulty interpreting the instructions for question No 35. The question stated *'Rate the elements you most value in the SCAN service in order of preference (1=most valued, 7=least valued)'*. One response option 'Links clients to community resources' was removed as it was deemed repetitive and the instructions on the question were revised to read *'Rank the elements you most value in the SCAN service from 1st to 6th in order of preference (1=most valued, 6=least valued). (Please use each number*

only once)'. The evaluation of the questionnaire was positive on all other items and no difficulties were experienced with the electronic survey website. Timing of completion indicated an average of 8 minutes completion time.

Sample

Purposeful sampling was used and targeted GPs working currently in the Health Service Executive (HSE) South East, HSE West and South County Dublin. These areas were chosen because HSE South East and South County Dublin were the locations that the Suicide Crisis Assessment nurse (SCAN) service was available. HSE West was chosen as a comparison site as GPs in this area had access to traditional mental health services only with which to meet the needs of patients in suicide crisis.

A letter of invitation, together with an information sheet on the study and a link to the online questionnaire, was distributed to GPs through the auspices of a nominated contact person in each of the three identified regions. The only inclusion criterion was that participant GPs must be currently in practice.

Data collection

The survey was launched on 17th May 2012 with data collection continuing until 4th July 2012. This period was longer than intended as responses were slow to accumulate. Reminder emails were sent to participants on a weekly basis on behalf of the research team by the gatekeepers. The response rate following 2 reminders was reviewed on June 14th and the closing date extended to allow participants the opportunity to complete. A further two reminder emails or texts were sent by the gatekeepers to participants. To facilitate those who may have had difficulty accessing the online questionnaire a number of hard copy questionnaires with return envelopes were dispatched to invited GP practices together with a letter of invitation and an information sheet on the study. One further closing

date extension followed and the survey closed after seven weeks on 4th July.

Data Analysis

Data were analysed using the data analysis software package SPSS IBM (SPSS Inc., Chicago, Il, USA).

Analyses included a variety of approaches, such as:

- Descriptive analysis: describing the distribution and range of responses to each variable and examining the data for skewness.
- Recoding data into categories where appropriate to enable statistically meaningful comparison of sub-groups.
- Bi-variate analyses: using simple cross-tabulations to identify trends and examine possible associations between variables.

Findings

Of the 257 GPs invited, 127 completed the questionnaire yielding a response rate of 49.4%. This response rate is above the average mean response rate (39.6%, SD= 19.6%) reported in a meta-analysis of response rates of web-based surveys (Cook et al., 2000). In addition, it compares favourably with the response rate (29%) achieved in a recent study by McCarthy et al., (2012) that focused on GP perceptions of the role dimensions, competence and professional development needs of practice nurses in Ireland.

In addition, there were 21 incomplete surveys, with 13 of these having completed fully to question 20. These responses were not included in the overall results. However, they were analysed in relation to questions around education and training and confidence in assessment and management of suicidal crisis, as all 13 participants had fully completed these sections.

The results are presented in three sections. The first section (Section A) shows responses from GPs in sites that had access to SCAN services (termed 'SCAN GPs') and those in areas that did not have access to SCAN services (termed 'non-SCAN GPs') on a number of variables including: demographic details, confidence in assessing and managing suicide, previous relevant training, conceptualisation of suicidal behaviour, management of patients who present in suicidal crisis, services in GPs catchment area to deal with suicidal crisis and number of patients seen in a year in suicidal crisis. Section B presents responses from SCAN GPs on their experience of SCAN and Section C presents the survey findings from non-SCAN GPs on their experience of traditional services in the management of suicidal behaviour.

SECTION A

GPs in SCAN and Non- SCAN sites

All participants were asked similar demographic questions in order to present a profile of participants.

Demographic Characteristics

Table 3.1 shows the demographic profile of all GPs who responded to the survey. A total of 63% (80) were male and 37% (47) female. Participants were mostly aged between 36 and 45 (36.2%, 46) or 46-55 (34.6%, 44), while only 6.3% (8) were under 35 years and just one GP was over 60 years. A little over half of the GPs were based in urban locations (58.3%, 74) and 41.7 %, (53) were located in rural areas. The majority worked full time, (85.8%, 109) while the number working part-time and job sharing were low (5.5%, 7). The majority of GPs were very experienced with most reporting being in practice between 11 and 20 years (29.9%, 38) or 21 -30 years (30.7%, 39). Some GPs (21.3%, 27) had less than 10 years' experience while a further 18.1% (23) had over 30 years' experience.

Table 3.1: Profile of SCAN & non- SCAN GP's (n=127)

	n	%
Gender		
Male	80	63.0
Female	47	37.0
Age		
25-35	8	6.3
36-45	46	36.2
46-55	44	34.6
56-65	28	22.1
66+	1	0.8
No of yrs working as a GPs		
0-5	13	10.2
6-10	14	11.0
11-15	14	11.0
16-20	24	18.9
21-25	23	18.1
26-30	16	12.6
31-35	18	14.2
36 or more	5	3.9
Practice Location		
Rural	53	41.7
Urban	74	58.3
Work Hours		
Full time	109	85.8
Job sharing	7	5.5
Part time	7	5.5
Other	4	3.15

Confidence in assessing and responding to a patient in suicidal crisis

A five point Likert scale ('extremely confident' -'not at all confident') was used to investigate GPs level of confidence in assessing and managing suicide risk in a patient. Participants were asked to use the scale to rate their level of confidence with:

a) assessment of suicide risk in a patient

b) responding to a patient in suicidal crisis

c) dealing with ongoing needs of suicidal patients.

Just over half of the GPs rated themselves as being moderately confident in assessing suicide risk (57.5 %, 73). The remainder rated themselves as either 'very confident' (34.6%, 44) or 'extremely confident' (7.08%, 9).

Similarly, 52% (66) were 'moderately confident' about responding to a patient in suicidal crisis, while 34.7% (44) were 'very confident' and 7.9% (10) were 'extremely confident'. Fewer than 5% (4.7%, 6) reported feeling only 'slightly confident' in their ability to respond to patients in suicidal crisis.

Over half of the GPs were also 'moderately confident' about responding to the on-going needs of suicidal patients (52.8%, 67). A further 28.4% (36) rated themselves as 'very confident' and (6.3%, (8) as 'extremely confident'. Just 7.9% (10) were slightly confident and 4.7% (6) reported feeling not confident at all in dealing with the on-going needs of suicidal patients. In summary, these findings suggest that GP's were generally confident in assessing and managing patients in suicidal crisis (Figure 3.1).

Figure 3.1: Confidence in assessing and managing suicidal crisis (n=127)
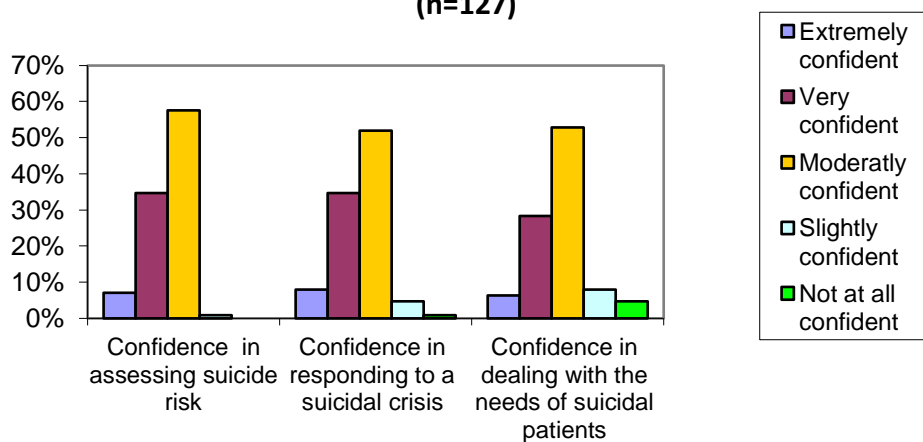
Confidence levels of SCAN and non-SCAN GPs were investigated to determine if there was any difference in the reported levels of confidence between the two groups.

A similar pattern was evident across the groups in realtion to assessing suicide risk in a patient. Table 2 highlights the similarity in ratings by GPs across both groups. No participant from either group rated themselves as 'not at all' confident in assessing suicide risk in a patient. Only one participant in the SCAN GP group rated themselves as 'slightly confident'. The largest proportion of participants 55.2% (32) and 59.4% (41) in the SCAN GP and non-SCAN GP group respectively, rated themselves as 'moderately confident' in assesing suicide risk. Ratings were similiar for the remaing confidence levels (See Table 3.2). A Chi Square test was performed to determine if confidence levels in suicide risk assessment were distributed differently across the SCAN or non-SCAN groups. The test failed to indicate a significant difference ($x2(3)= 1.64$, $p= 0.65$).

Table 3.2: Confidence in assessing suicide risk   in SCAN and non-SCAN groups

|		Frequency	Percent			Frequency	Percent
SCAN GPs	extremely confident	5	8.6	**Non-SCAN GPs**	extremely confident	**4**	**5.8**
	very confident	20	34.5		very confident	**24**	**34.8**
	moderately confident	32	55.2		moderately confident	**41**	**59.4**
	slightly confident	1	1.7		slightly confident	**0**	**0.0**
	Total	58	100.0		Total	**69**	**100.0**

Comparison of both groups in relation to confidence in responding to a patient in suicidal crisis yielded a similar pattern as previously outlined for suicide risk assessment. Again, there was no statistical difference between the two groups ($X2(4, n=127) = 4.719$, $p= 0.32$).

Analysis of differences between the two groups in relation to dealing with ongoing needs of suicidal patients identified that more non-SCAN GPs than expected rated themselves as 'moderately confident', but again there was no statistical difference between the two groups in relation to perceived levels of confidence in dealing with suicidal patients ongoing needs ($X2(4, n=127) = 1.934$, $p= 0.75$).

Previous Training in suicide/deliberate self-harm and depression

Participants were asked to indicate whether they had previously undertaken training in suicide/deliberate self-harm and/or depression. More GPs had undertaken training in the assessment and management of depression (71.7%, 91) than specific training in suicide and self-harm (38.6%, 49). Over 60% of participants (61.4%, 78) indicated that they had no previous training in suicide and self-harm (Figure 3.2).

Figure 3.2: Training in suicide/deliberate self harm and depression (n=127)
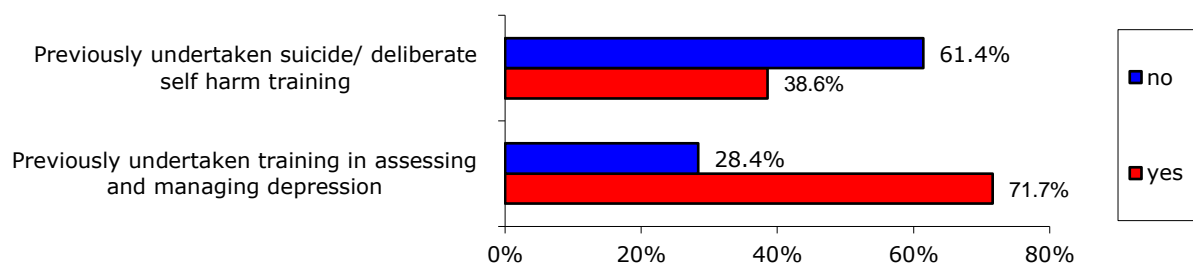
The most common form of training in self harm/suicide reported was a posting in psychiatry (54.4%, 26) followed by a programme of evening talks (33.3%, 16). The most common form of training in depression reported was a programme of evening talks (42.0%, 39) followed by a posting in psychiatry (34.7%, 31)

Most of the training in suicide/self-harm was undertaken within the previous 5 years (44.9% 22) or 3-5 years (30.6%, 15). Some participants (16.3%, 8) had undertaken training in the previous 1-2 years and 1 year (8.2%, 4). A similar pattern is evident for training in depression as seen in figure 3.3.

Figure 3.3: Time since last training in suicide/self harm (n=49) & depression (n=90)
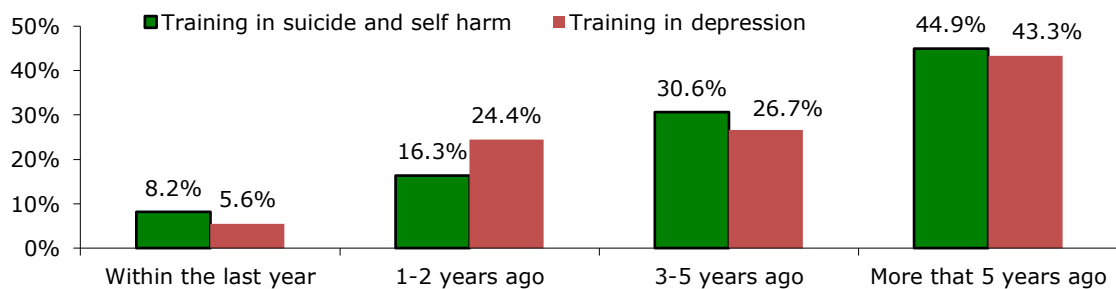
Results were analysed to observe for any relationship between training and confidence in assessing and managing clients in suicidal crisis. Results indicated that participants who had completed training in suicide/self-harm had a higher than expected level of confidence in assessing patients in suicidal crisis. A Chi Square test was performed to determine if confidence levels in suicide risk assessment were distributed differently across those who had completed training and those who had not. The test indicated a significant difference, ($x2(4)= 16.59$, $p=.05$), in those who had undertaken training and those who had not. Results suggest that training in suicide/deliberate self harm impacts positively in confidence in suicide risk assessment.

A Chi Square test was performed to determine if confidence levels in dealing with the ongoing needs of suicidal patients were distributed differently across those who had completed training and those who had not. The test indicated a significant difference, ($x2(4)= 16.593$, $p=.05$), in those who had undertaken training and those who had not. Results suggest that training in suicide/deliberate self harm positively impacts confidence in ongoing management of suicidal patients.

Similar results were evident in relation to confidence levels in assessing and managing the ongoing needs of suicidal patients and training in depression. There was a significant difference in the confidence levels with regard to assessing suicidal risk between the group who had

undertaken training in depression and those that had not ($x2(3)= 17.37$, $p=0.05$.)

There was also a significant difference in the confidence levels in dealing with the ongoing needs of suicidal patients between the group who had undertaken training in depressionin and those that had not ($x2(4)= 9.96$, $p=0.05$.)

Conceptualisation of Suicidal Crisis

Five typologies of suicidal behaviour illustrating various levels of suicide risk were presented in the form of statements. Participants were asked to indicate which, if any, of the presentations constituted a suicidal crisis (Figure 3.4) Participants could tick as many presentations as deemed applicable.

Findings show different interpretations as to the types of presentations that reflect a suicidal crisis, but in general nearly all GPs (98.4%, 125) regard those with '*suicidal thoughts, intent to harm themselves and have a plan*' as constituting a suicidal crisis. Over 70% of GPs (72.4%, 92), consider those with '*suicidal thoughts and intent to harm themselves but no plan*' in suicidal crisis. A third of GPs (33%, 42) considered those with suicidal thoughts and no intent to harm themselves in suicidal crisis.

Figure 3.4: Presentations that GP's consider constitute a suicidal crisis (n=127)
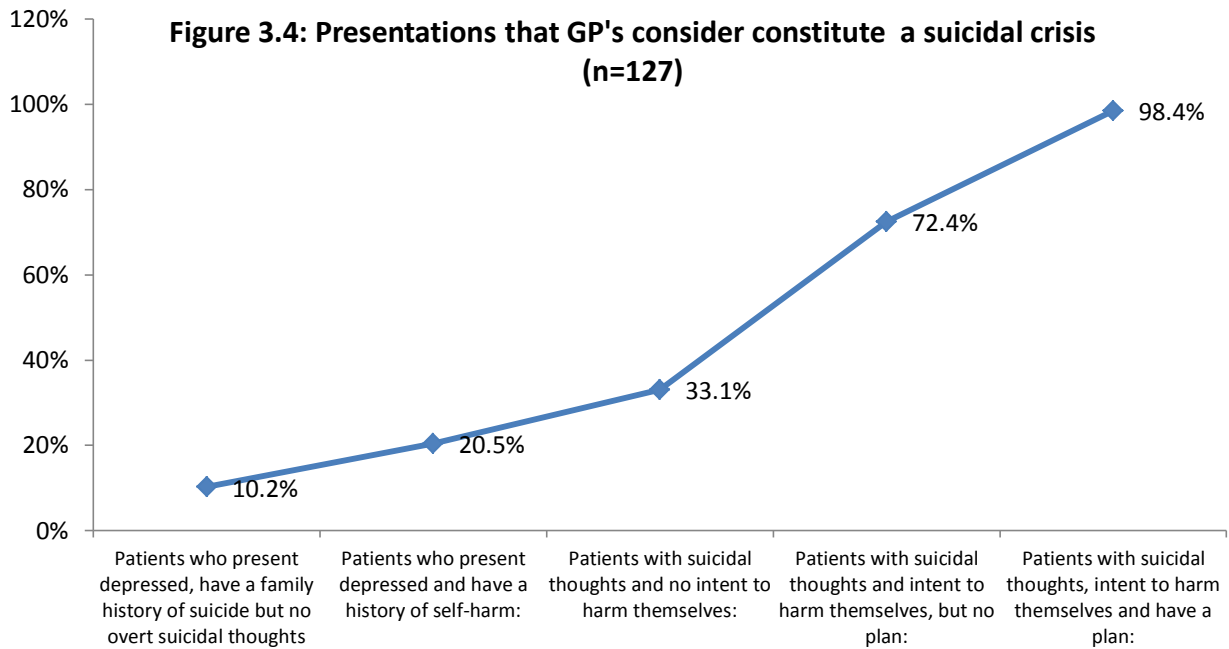
## GPs response to patients who present in suicidal crisis

GPs were asked to indicate normal referral practices with patients who presented in suicidal crisis between 9-5 Monday to Friday, after 5pm and at weekends. Participants were given five management options. In addition, participants were allowed the opportunity to include any other relevant unspecified approach that they normally utilise. Participants could tick as many management options as appropriate.

It was apparent from the results that a range of management strategies were used by all the GPs. The most frequently used management strategies between 9-5 Monday to Friday were:

- refer for admission to inpatient service (59.1%, 75),
- refer to SCAN service (40.2%, 51)
- manage by the GP (37.8%, 48)
- refer to A & E (31.5%, 40)
- refer to the community mental health team, 25.2% 32,)
- Other (1% 2) (See Figure 3.5).

The most frequently used management strategies after 5pm and at weekends were:

- refer for admission to inpatient service (68.3%, 86)
- refer to A &E (43.7%, 55)
- manage by the GP (37.3%, 47)
- refer to the SCAN service (19.8%, 25)
- refer to the community mental health team (8.7%, 11)
- other (3%, 5) (See Figure 3.5).

Figure 3.5: GPs response to patients presenting in suicidal crisis (n=127)
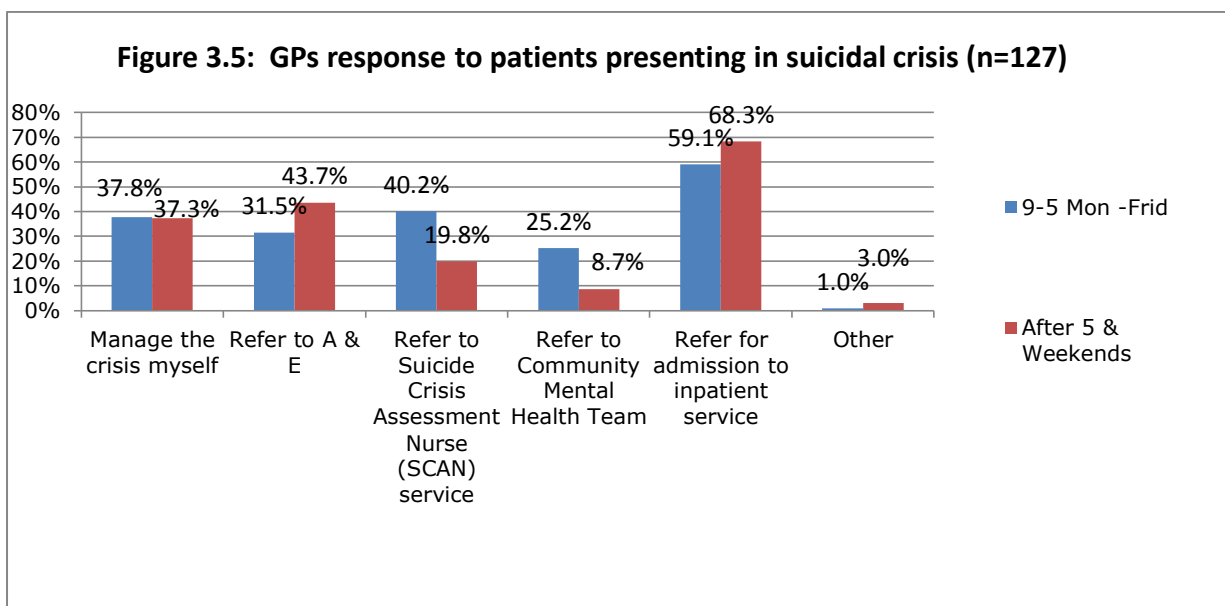
## Services provided for patients in suicidal crisis in the GP's catchment area?

GPs were asked to indicate the range of services available for patients in suicidal crisis in their catchment area. Participants were given a list of seven services and could tick as many available services as applicable. In addition, participants could include any other relevant unspecified service available in their area. The results indicate that a range of services are available to all GPs. The more commonly available services are as follows:

- adult community mental health teams (71.7%, 91),

- child and adolescent community mental health teams 51.2%, 65)
- A&E liaison mental health crisis service (50.4%, 64)
- suicide crisis assessment nurse (SCAN) (45.7%, 57)

Less cited services included voluntary counselling services (20.5%, 26), mental health service crisis nurse (13.4% 17) and just 7.8% (10) reported access to a primary care mental health professional (Figure 3.6).

Figure 3.6: Services provided for patients in suicidal crisis in your catchment area (n=127)

Service	Percentage
Community Mental Health Team (Adult)	71.7%
Community Mental Health Team (Child and…)	51.2%
A & E Liasion Mental Health Crisis Service	50.4%
Suicide Crisis Assessment Nurse (SCAN)	45.7%
Voluntary Counselling Services	20.5%
Mental Health Service Crisis Nurse	13.4%
Primary Care Mental Health Professional	7.8%
Other Service	3.2%
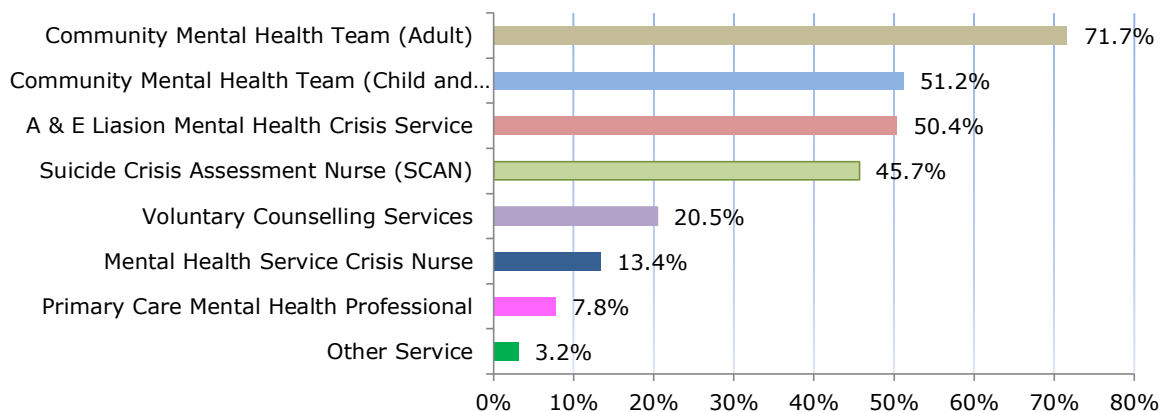
Number of patients seen in suicidal crisis in a year

Participants were asked to approximate the number of patients in suicidal crisis seen annually. Almost half of GPs (48%, 60) reported that they saw between 1 to 5 patients in suicidal crisis annually. Almost 30% (29.6%, 37) reported seeing 6 to10 patients, and 12.8% (16) saw 11-15 patients. The majority of GPs (77.6%, 97 out of 125) saw between one and ten patients in a suicidal crisis in a twelve month period (Figure 3.7).

**Figure 3.7: Number of patients seen in suicidal crisis in a year
(n=125)**
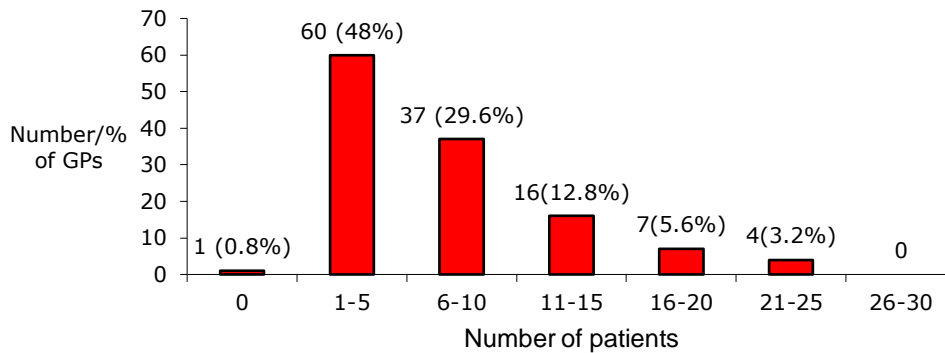
The approximated number of patients seen annually was subdivided into numbers reported by SCAN GP and non-SCAN GP groups to look for similarities and differences in numbers of patients seen (Table 3.3). The number of GPs that reported seeing between 1-5 patients was similar in both the SCAN and non-SCAN groups (49% (28) & 48% (32) respectively). A greater percentage of GPs in the non-SCAN group reported seeing between 6-10 patients (33% (22) vs. 26% (15)) and percentages were similar for all other groupings with SCAN GPs reporting slightly higher numbers of patients than non-SCAN GPs.

Table 3.3: Number of patients seen annually

Number of patients	SCAN GP	Non SCAN GP	Difference
0	1 (2%)	0	+2%
1-5	28 (49%)	32 (48%)	+1%
6-10	15 (26%)	22 (33%)	-7%
11-15	8 (13%)	8 (11%)	+2%
16-20	3 (6%)	4 (6%)	0
21-25	3 (6%)	1 (2%)	+4%

GPs experience of the SCAN service

This section presents the findings relating to GPs experience of using the SCAN service.

The Suicide Crisis Assessment Nurse (SCAN) service was available to 44.9% (57) of GP participants.

Referral Patters to SCAN service

GPs were asked to indicate the number of patients that were seen in suicidal crisis and subsequently referred to the SCAN service. Reported referral patterns indicated that 54.5% (30) of GPs referred 1-5 patients, 32.7% (18) referred 6-10 patients, and 10.9% (6) referred 11-15 and 1.8% (1) referred 16-20 patients to the SCAN service annually. When compared with the reported number of patients seen annually, it is apparent that GPs with access to SCAN services are referring on the majority of patients assessed to be in suicidal crisis to the SCAN service (See Table 3.4).

Table 3.4: Referral patterns of SCAN GPs

No. Of Patients	SCAN GPs	SCAN GPs
Number pts. annually	GPs reporting numbers seen annually	GPs reporting numbers referred to SCAN
0	1 (2%)	0
1-5	28 (49%)	30 (54.5%)
6-10	12(26%)	18 (32.7%)
11-15	8 (13%)	6 (10.9%)
16-20	3 (6%)	1 (1.8%)
21-25	3 (6%)	0
26+	0	0

Types of mental health problems normally referred to the SCAN service

GP were asked to indicate the types of mental health problems they normally refer to the SCAN service. Results show that SCAN was most frequently used for patients presenting in suicidal crisis (98.2%, 56) or self-harm (67.9%, 36). Other mental health presentations less frequently referred included patients with acute psychotic episodes (6.1%, 3), substance abuse (4.1%, 2) and depressive episodes (2%, 1) (Table 3.5).

Table 3.5: Types of mental health problems referred to the SCAN (%)

	(n)	Always	Often	Sometimes	Rarely	Not at all
Q 22 Types of mental health problems referred to SCAN						
Suicidal Crisis	57	73.7	24.6	1.8	0	0
Self-harm	53	28.3	39.6	18.9	5.7	7.6
Substance Abuse	49	0	4.1	32.7	22.5	40.8
Depressive Episode	51	0.	2.0	51.0	23.5	23.5
Anxiety Disorders	48	0	0	12.5	35.4	52.1
Acute Psychotic Episode	48	2.0	4.1	4.1	22.5	67.4
Chronic Psychosis	49	0	0	0	18.4	81.6
Manic Episode	49	0	0	10.2	14.3	75.5

Types of suicidal behaviour normally referred to the SCAN service

Participants' were asked to rate the frequency of referral of detailed typologies to the SCAN service (Table 3.6). Results indicated that patients considered to be at greatest risk i.e. '*patients with suicidal thoughts, intent to harm themselves and have a plan',* were referred most frequently (Always-Often) to the SCAN service (*88.7%).* The typology, '*patients with suicidal thoughts and intent to harm themselves, but no plan'* were referred (Always- Often) by 76.8% of GPs.

Lower perceived risk typologies reflected lower reported referral rates with '*patients with suicidal thoughts and no intent to harm themselves*", referred (Always- Often) by 35.2% of GPs and ' p*atients who present depressed and have a history of self-harm'* were referred (Always-Often) by 21.8% of GPs. Only 7.4% of GPs referred (Always-Often) 'p*atients' who present depressed, have a family history of suicide but no overt suicidal thoughts'.*

Table 3.6: Types of suicidal behaviour referred to the SCAN (%)

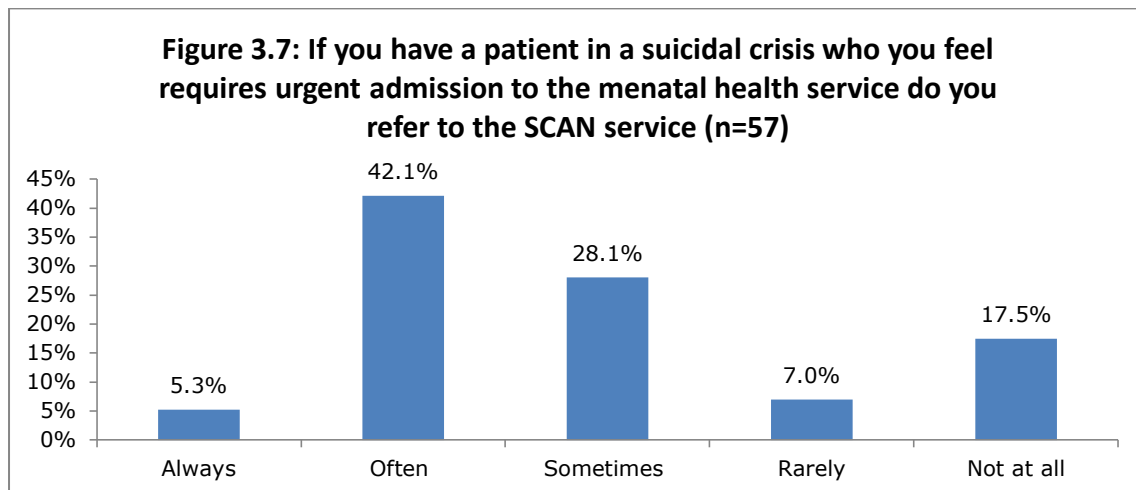|	N	Always	Often	Sometimes	Rarely	Not at all
Patients who present depressed, have a family history of suicide but no overt suicidal thoughts	54	0	7.4	25.9	44.4	22.2
Patients who present depressed and have a history of self-harm	55	5.5	16.4	36.4	29.1	12.7
Patients with suicidal thoughts and no intent to harm themselves	54	11.1	24.1	40.7	18.5	5.6
Patients with suicidal thoughts and intent to harm themselves, but no plan	56	37.5	39.3	17.9	5.4	0.0
Patients with suicidal thoughts, intent to harm themselves and have a plan	53	58.5	30.2	3.8	5.7	1.9

Number of patients referred to SCAN monthly

GPs were asked to estimate the average number of patients they referred to SCAN on a monthly basis. Reported results (n=55) indicated a mean of 1.48, a median of 1 and a maximum of 7 patients referred on a monthly basis.

Referral patterns for patients deemed to require urgent admission

In order to evaluate the role of SCAN in supporting GPs in situations where they judge a patient to require urgent admission to the mental health service, GPs were asked to indicate if they refer to SCAN in these

situations. Results show that almost half of the GPs either 'always' or 'often' (47.3%) referred to SCAN in instances where they deemed a patient required in-patient admission. A further 28% indicated that they 'sometimes' referred to SCAN in these instances and 24.6% referred to SCAN 'rarely' or 'not at all' (Figure 3.7).

Figure 3.7: If you have a patient in a suicidal crisis who you feel requires urgent admission to the menatal health service do you refer to the SCAN service (n=57)

Always	Often	Sometimes	Rarely	Not at all
5.3%	42.1%	28.1%	7.0%	17.5%

Reasons for not referring to SCAN service

Using a five point frequency Likert scale (always - not at all) with 11 pre-determined statements, GPs were asked to indicate the reasons they may not refer to the SCAN service. In order to summarise the data 'always' and 'often' responses were combined and recoded to 'frequent' and 'sometimes' and 'rarely' and 'not at all' were re coded to 'not frequent'.

Results show that the main reasons for not referring to the SCAN service were:

- Patient currently under the care of mental health service, (35.9%, 17);
- Lack of availability of the SCAN nurse at the time of the crisis (30.9%, 13);
- Ready access to the mental health service (22.2%,10),
- GPs confidence in own ability to assess the client (16%, 7),

- Lack of availability of suitable venue for SCAN nurse to interview patient (11.8%,5),
- Availability of community support services (6.1%,3),
- Unsure of referral criteria to scan service (3.9%, 2)
- Access to crisis mental health nurse in A&E (2%, 1).

Overall, reasons for not referring to the SCAN service appeared to relate to the immediacy and availability of specialist service when presented with a patient in suicidal crisis (see Table 3.7 & Figure 3.8).

Table 3.7: Factors influencing GP decisions NOT to refer to SCAN

	n	Frequent %	Not Frequent %
Patient is currently under the care of the Mental Health service	53	35.9	64.1
Lack of availability of SCAN services at the time of the crisis intervention	55	30.9	69.1
Ready access to Mental Health services	54	22.2	77.8
Confidence in own ability to assess client	50	16.0	84.0
Lack of availability of suitable venue for SCAN nurse to interview patient	51	11.8	88.2
Availability of community support services	49	6.1	93.9
Unsure of referral criteria to SCAN service	51	3.9	96.1
Access to a crisis Mental Health nurse in A & E	49	2.0	98.0
SCAN is not an effective service	51	0	100
SCAN is more suited to clients who are not in suicidal crisis	51	0	100
SCAN delays access to Mental Health service	51	0	100

Combined always & often, recoded 'frequent' and sometimes, rarely, not at all recoded ' not frequent' and responses are rank ordered.

Figure 3.8: When presented with a patient in suicidal crisis indicate the reasons that may influence you not to refer to SCAN service
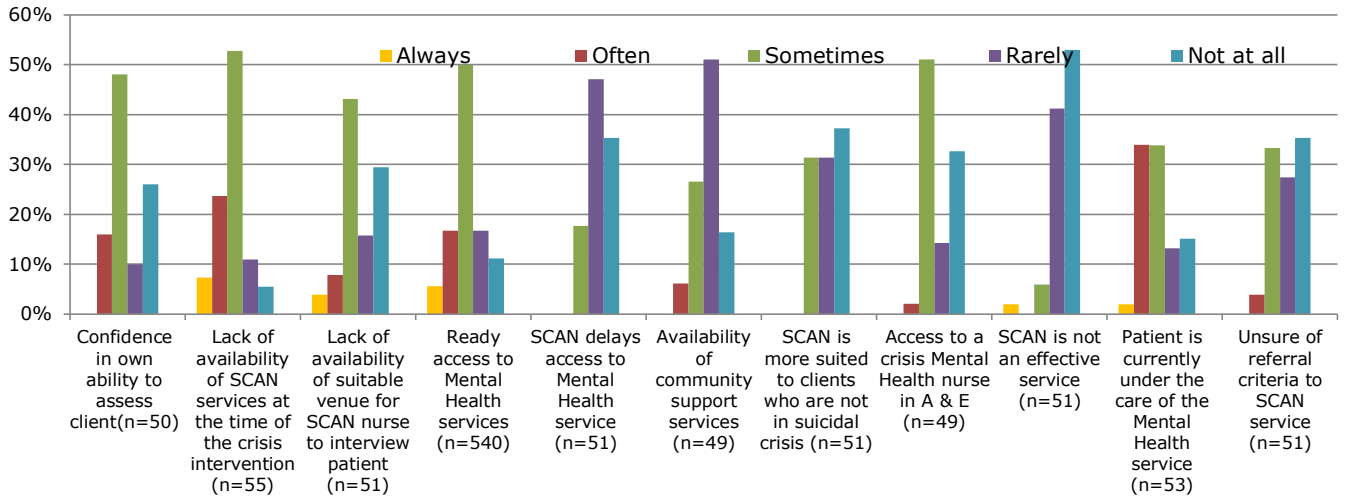

Waiting time for a patient to be seen by SCAN

GPs were asked to indicate the usual waiting time for a patient to be seen by the SCAN following referral. Results showed that 10.5% (6) were reportedly seen the same day, 47.4% (27) the follow day, 29.8% (17) within two days and 7.02% (4) were seen within three days following referral to SCAN.

Services GP's would like SCAN to provide

GPs in the SCAN sites were asked to rank the services they would like SCAN to provide, with 1 indicating the most preferred service and 6 indicating the least preferred service. As can be seen in Figure 3.9, the ability to stabilise and manage the crisis was ranked as the most preferred service (mean (m) =1.6), and nurse prescribing services were ranked as the least preferred option (m=5.0).

Figure 3.9: Services GP's would like SCAN to provide (n=56)
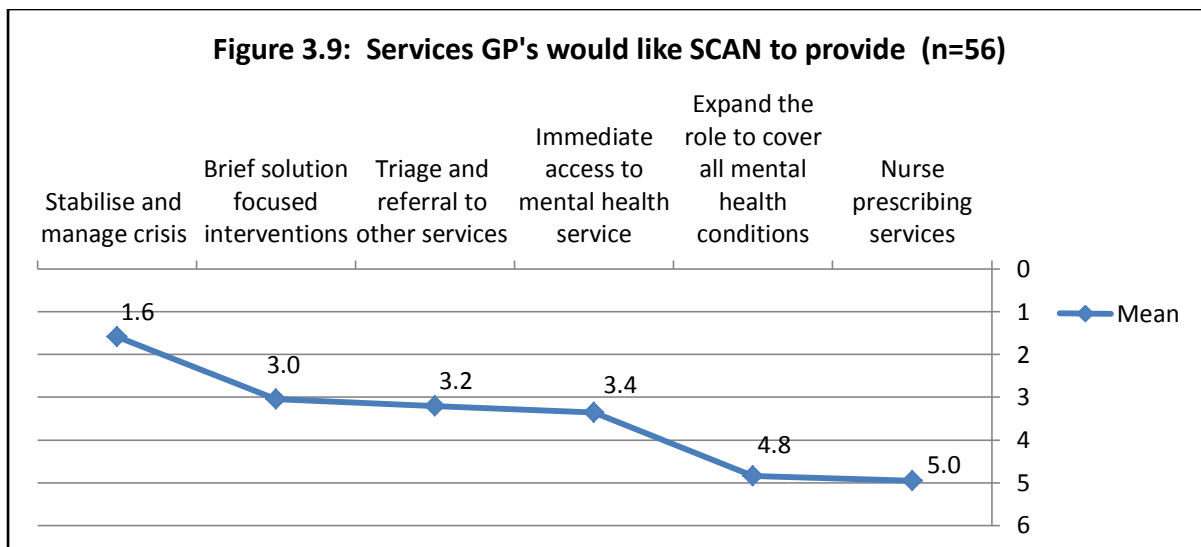
Preferred Hours/time SCAN service should be available

GP's were asked to indicate the preferred time availability of the SCAN service. The majority of GPs in the SCAN sites (54.3%, 31) rated a 24/7 SCAN service as the preferred option and 38.6%, (22) opted for a 9-5 service including weekends (Figure 3.10)**.**

Figure 3.10: Preferred hours of SCAN service (n=57)

- 9-5 Weekdays
- 9-5 &Weekends
- 24/7
- Other

1.8%   5.3%
54.4%
38.6%
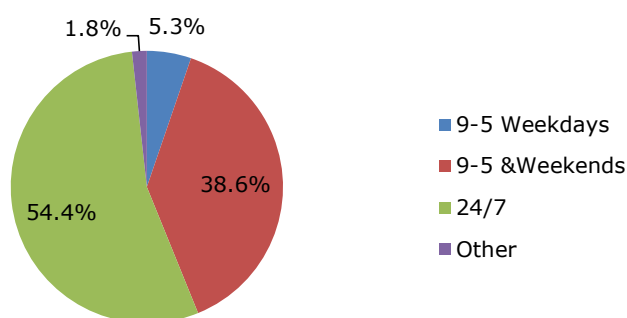
Preferred Location of SCAN Service

Participants were asked to specify the preferred location of SCAN services. The majority of participants (76%, 38) indicated that SCAN should be based in primary community & continuing care (PCCC) services. Of the remaining 24% (12) of participants, 12% (6) indicated that the

SCAN service should be located in the mental health service and a further 8% (4) indicated A&E as the preferred location. Participants were offered the choice of indicating an alternative location not already specified. Only 4% (2) of participants chose this option, and responses suggested that a combination of PCCC service and Emergency Department (ED) should be utilised as the preferred base for the SCAN service.

Patient follow- up after assessment by SCAN service

GPs experience of the follow-up process after referral of a patient to the SCAN service appeared to vary. Over a third of GPs (38.6%, 22) reported that they followed up the patient themselves after the initial assessment by SCAN. In contrast, 29.8% (17) of participants indicated that the SCAN service followed up the patient and reported periodically to the GP and a further 28% (16) reported that follow-up was on a liaison basis between both the SCAN service and the GP.

Impact of SCAN on patient outcomes

Participants were asked to rate the impact of the SCAN service on a number of variables that related to outcomes of care for referred patients in suicidal crisis. Over half of the GPs (53.6, 30) agreed that SCAN was associated with better patient satisfaction and enhanced engagement with treatment (47.3%, 26). Forty one percent (23) agreed that SCAN reduced repetition rates of suicidal crisis and improved coping skills (40%, 22). Over a third (38.2%, 21) agreed that SCAN reduced incidence of self-harm and enhanced collaboration with family (32.1%, 18) (Figure 3.11). The impact of SCAN on patient outcomes was perceived by GPs to be very positive.
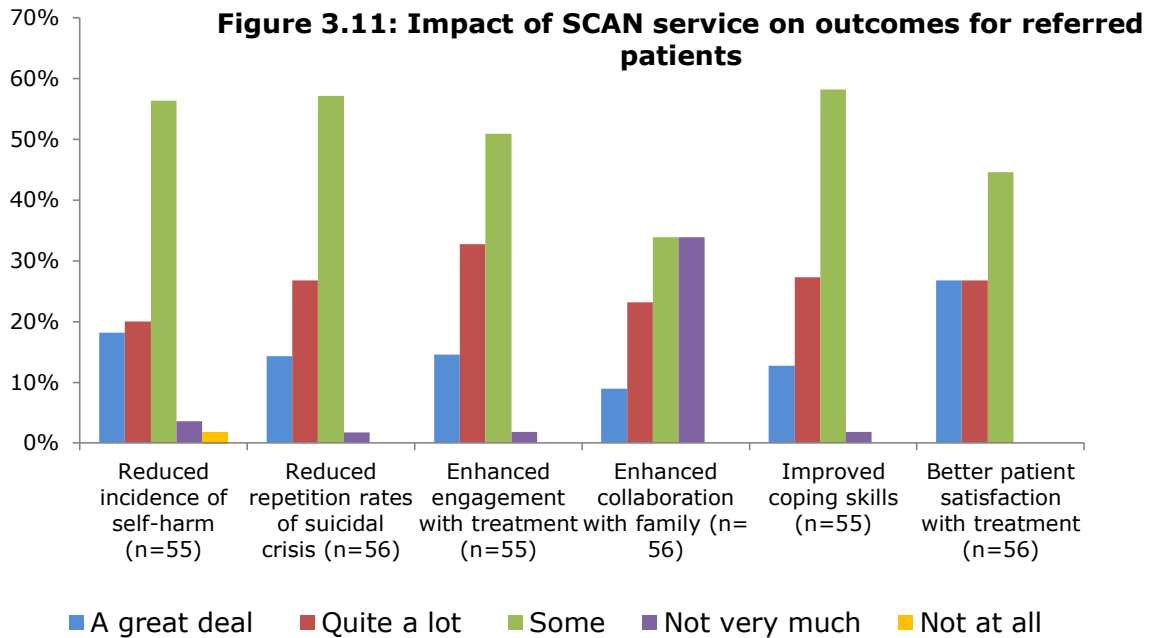
Figure 3.11: Impact of SCAN service on outcomes for referred patients

Categories (x-axis): Reduced incidence of self-harm (n=55), Reduced repetition rates of suicidal crisis (n=56), Enhanced engagement with treatment (n=55), Enhanced collaboration with family (n=56), Improved coping skills (n=55), Better patient satisfaction with treatment (n=56)

Legend: A great deal, Quite a lot, Some, Not very much, Not at all

Impact of SCAN on GPs understanding of suicidal behaviour

Participants were asked if working with SCAN had impacted on their understanding of suicidal behaviour by rating their responses to three statements related to knowledge and skills in assessing and managing suicidal behaviour. Responses were the same for all three statements in that 22% (13) of participants indicated that their knowledge of suicidal behaviour, their skills and ability to assess suicidal behaviour, and their skills and ability to manage suicidal behaviour had increased a great deal or quite a lot because of SCAN. Further, over 77% (44) of participants acknowledged that SCAN has some impact on their understanding of suicidal behaviour (Figure 3.12)

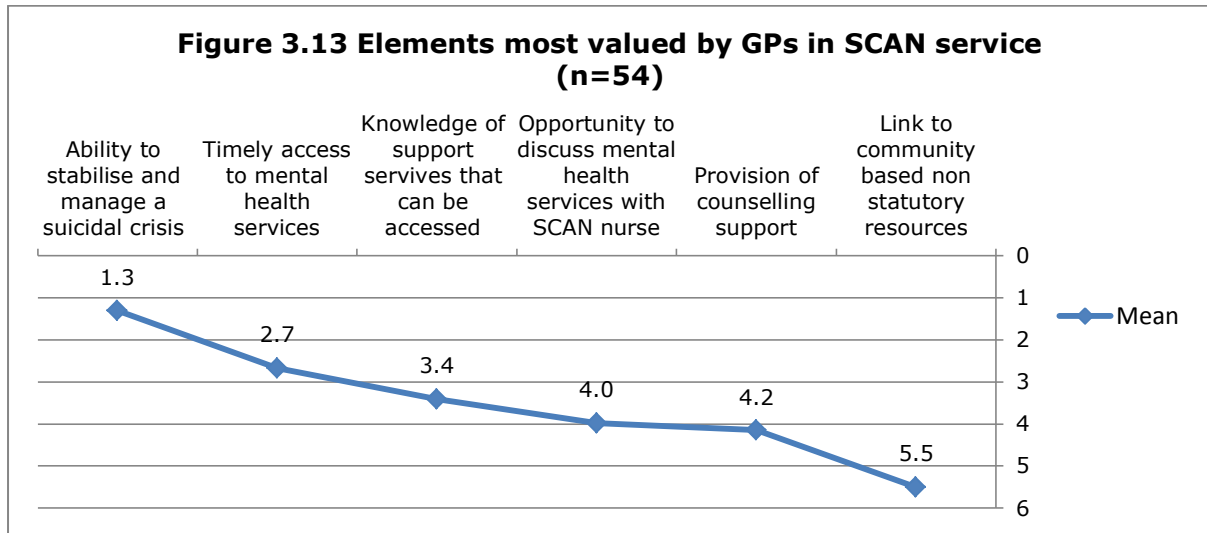**Figure 3.12: Impact of SCAN on GP's understanding of Suicidal behaviour (n=57)**
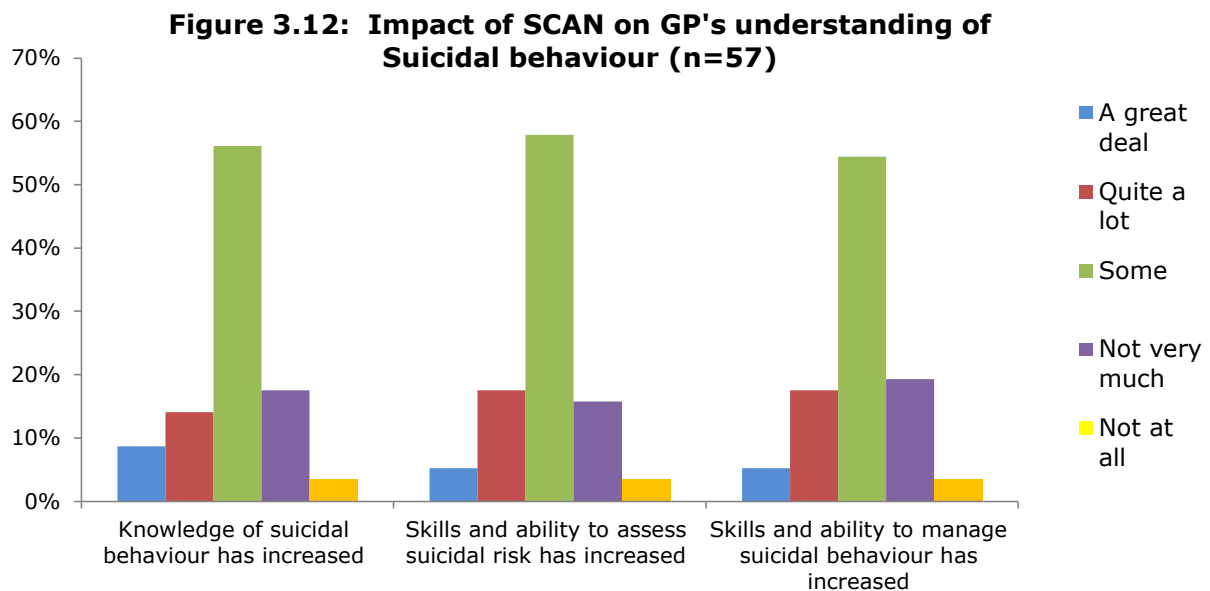
SCAN service compared to usual care

Participants were asked to rate their level of agreement (strongly agree-strongly disagree) with three statements that compared the SCAN service to usual care in relation to treatment adherence and acceptability of referral. Almost all participants (92.5%, 50) agreed that compared to usual care, patients are more readily agreeable to being referred to SCAN as they perceive it as being outside the mental health service. The majority of participants (83.3%, 45) also agreed that the SCAN service leads to better treatment adherence than usual care. Importantly, over half of the GPs (56.6%, 30) using the SCAN service agreed that they sometimes refer people to SCAN who they would not have otherwise referred to the mental health service.

Elements of the SCAN service most valued by GP's

GPs in the SCAN sites were asked to rank the elements they most value in the SCAN service from 1 to 6 in order of preference (1=most valued, 6= least valued). Figure 3.13 shows that the ability to stabilise and manage a suicidal crisis was ranked as the most valued service (m=1.3). Timely access to mental health services was also valued highly (m= 2.7).

The least valued elements of the service were the provision of counselling (m= 4.2) and links to community based non-statutory resources (m= 5.5).

Figure 3.13 Elements most valued by GPs in SCAN service (n=54)

Ability to stabilise and manage a suicidal crisis	Timely access to mental health services	Knowledge of support servives that can be accessed	Opportunity to discuss mental health services with SCAN nurse	Provision of counselling support	Link to community based non statutory resources
1.3	2.7	3.4	4.0	4.2	5.5

Free text qualitative comments about the SCAN service

A free text response option was included at the end of the questions relating to the SCAN service, which invited participants to include any comment they wished to make on the SCAN service. Twenty six participants (20.5%) responded with comments. Content analysis of the free text responses revealed two main themes: endorsement of SCAN and service modifications.

Endorsement of Scan

Many participants indicated that SCAN was an excellent service and one which they were very satisfied with. They valued the thorough patient reports and opportunity to discuss patient care issues on site. The majority of GPs endorsed the SCAN as an essential service model for the management of the depressed suicidal patient in the community. One GP stated:

SCAN is an excellent service and one of the most effective interventions in any sphere of acute medicine that we practice as Family Physicians. I fully support it and view the service as an ESSENTIAL service for my management of acutely ill depressed suicidal patients.

Several participants commented that the SCAN service '*should be rolled out nationally*' while other comments supported this concept and indicated that the service should be extended and possibly further refined.

Service Modifications

While the majority of participants who included comments endorsed the value and importance of the SCAN service, they were also strong suggestions around the need for service adjustments and modifications. The absolute requirement of the SCAN service to respond in a timely manner to the suicide crisis was a key issue for participants, and some participants suggested that the lack of immediate response of the SCAN service to a patient in suicidal crisis necessitated the referral of the patient to in-patient mental health services.

….time taken to access service means that I do not use it for what I perceive to be a suicidal crisis i.e. active intent and plan and I tend to refer these directly for same day assessment to mental health team.

Participants were also concerned that the lack of an available consultation room at the surgery acted as a barrier to addressing crisis as they presented

The *requirement to use GP facilities can lead to delay as there may be no capacity in the practice to facilitate room availability*.

In addition, participants recommended that the SCAN service be expanded to a full time, seven day service with a full team so that access to, and use of the crisis service would be optimal

> *I think it is understaffed and quite difficult to get someone seen on the same day.*

From a service model perspective, it was suggested that the management of suicidal and self-harming behaviour should be more integrated into one service system. As one participant noted:

> *I would prefer if suicidal and self-harming behaviour was all under one umbrella of e.g. SCAN as presented it is very disjointed between acute admission out of hours and during normal hours, local mental health clinics and A/E. ONE REFERRAL AGENCY to triage or coordinate would be superior in my opinion.*

Satisfaction of GPs with SCAN service in responding to suicidal patient management needs

Participants were asked to rate their overall satisfaction with how the SCAN service responds to their needs in managing patients in suicidal crisis on a five point Likert scale (extremely satisfied-extremely dissatisfied). One third of GPs were extremely satisfied (31.6%, 18) with the SCAN service and over 65% (66.7% 38) were satisfied. None of the GPs reported being dissatisfied with SCAN (Figure 3.14).

Figure 3.14: GP's satisfaction with SCAN service (n= 57)

- Extremely satisfied
- Satisfied
- Neutral

31.6%

66.7%

1.8%
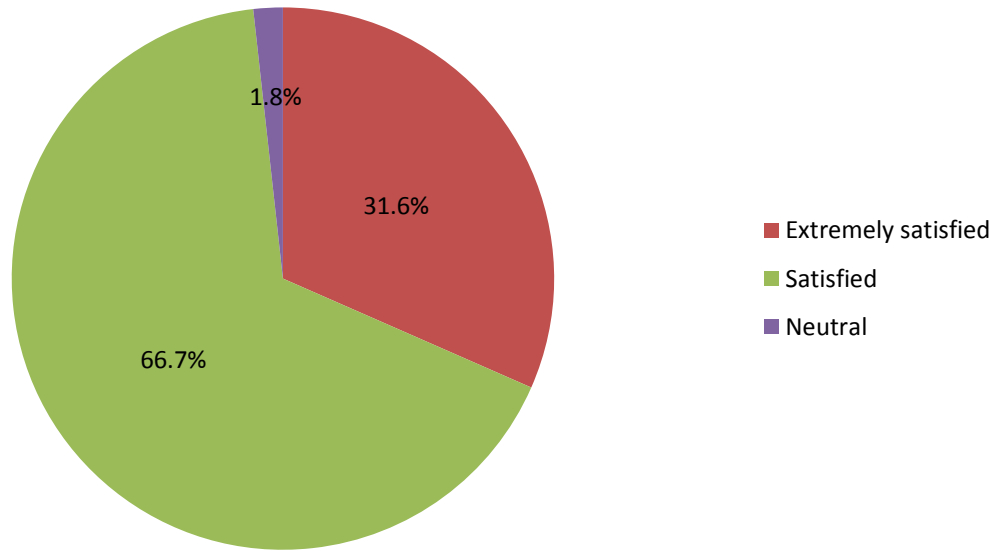
GPs in Non- SCAN sites

This section relates to the results obtained following analysis of responses of GPs in non-Scan sites. Many of the questions asked of participants' were similar to those asked of SCAN GPs however, the context of the questions related to the GPs experience of suicide assessment and management services in the mental health service.

Types of suicidal behaviour normally referred to the mental health services

Following on from a previous question relating to conceptualisation of suicidal crisis, GPs in the non- SCAN service were asked to rate the frequency of referral of these typologies to the mental health service (Table 3.8). Similar to GPs in the SCAN service, results indicated that typologies suggestive of high suicide risk i.e. '*patients with suicidal thoughts, intent to harm themselves and have a plan' were* most frequently referred to the mental health service (97.2%, 68). The typology, 'patients *with suicidal thoughts and intent to harm themselves, but no plan"* were referred by 61.4% (43) of GPs.

Lower perceived risk typologies reflected lower reported referral rates with '*patients with suicidal thoughts and no intent to harm themselves"*, referred by 27.9% (19) of GPs and ' p*atients who present depressed and have a history of self-harm'* were referred by 27.2% (19) of GPs. Only 8.6% (6) of GPs referred 'p*atients' who present depressed, have a family history of suicide but no overt suicidal thoughts'.*

Table 3.8: Types of suicidal behaviour referred to the Mental Health services (%)

	N	Always	Often	Sometimes	Rarely	Not at all
Patients who present depressed, have a family history of suicide but no overt suicidal thoughts	70	1.4	7.1	30.0	41.4	20.0
Patients who present depressed and have a history of self-harm	70	12.9	14.3	28.6	34.3	10.0
Patients with suicidal thoughts and no intent to harm themselves	68	11.8	16.2	50.0	16.2	5.9
Patients with suicidal thoughts and intent to harm themselves, but no plan	70	31.4	30.0	35.7	2.9	0.0
Patients with suicidal thoughts, intent to harm themselves and have a plan	70	52.9	44.3	2.9	0.0	0.0

Results from the SCAN GPs and non-SCAN GPs were compared to detect any difference in the type of suicidal behaviour referred to suicide crisis assessment service being used. Results from both groups were comparable and statistical analysis confirmed that there was no significant difference between the groups in the type of suicidal behaviour referred (for example: There was no significant difference in the referral patters of SCAN GPs and non-SCAN GPS in relation to patients with suicidal thoughts, intent to harm themselves but no plan (m= 1.91, SD=0.880) (t (123) = 3.61, p=0.55).

Number of patients in suicidal crisis referred to the Mental Health services monthly

GPs were asked to approximate the average number of patients in suicidal crisis they referred to the mental health service on a monthly basis. The results show (n=69) that the estimated mean number of patients referred was 1.5 monthly, the median was 1 and maximum was 10. These figures closely reflect the number of patients the SCAN GPs reported as being referred to the SCAN services on a monthly basis.

Waiting time for a patient in a suicidal crisis to be seen by the mental health team

GPs were asked to indicate the usual waiting time for a patient to be seen by the Mental Health service following referral. One third of patients were seen the same day (30%, 21) or within two days (31.4%, 22) and 20% (14) were seen within three days of referral to the mental health service (Figure 3.15).

Figure 3.15: Waiting time for a patient to be seen by Mental Health Service (n=70)
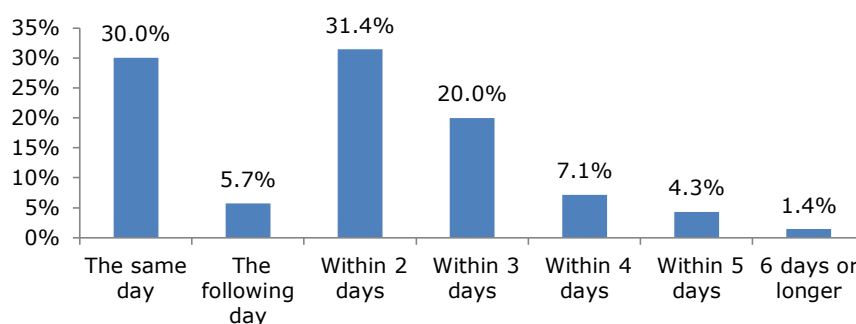
Comparison was made with the reported waiting times from referral for SCAN GPs. Only 10.5% of SCAN GPs (n=6) reported patients being seen the same day, whereas 30% (21) of non-SCAN GPs reported patients being seen the same day. Just under half (47.4%,27) of SCAN GPs reported patients being seen the following day compared with 5.7% (4) of non-SCAN GPs. Nearly, 90% (50) of patients in SCAN service areas were seen within two days compared with 67.1% (47) of patients in non-SCAN areas. Therefore, while immediate appointments were more available in the non-SCAN sites, consistency in having referred patients seen by two days was higher in SCAN sites.

Adequacy of the mental health service to meet GP needs in dealing with patients in suicidal crisis

Using a Yes/No response option, GPs in the non- SCAN service were asked whether the current mental health service was meeting their needs adequately in dealing with patients in suicidal crisis.

Of the 67 participants who responded, 44.8% (30) indicated 'yes' and 55.2% (37) indicated 'no'. Participants were also invited to qualify their response with open comments. Thirty one GPs (46%) responded with free text comments. Content analysis of the data revealed two main themes: access to service and quality of the service.

Access to service

Some participants reported experiencing difficulty accessing mental health services for patients in suicidal crisis. Many of the participants who commented highlighted that in-patient care was the only option in many instances; however this was not the optimum choice:

> *For many in patient care is the only option and it is not appropriate as most of their support network is in the community*

Many participants acknowledged having concerns about the response times of the mental health service to patients in suicidal crisis and further concerns around follow up procedures. Concerns were around not receiving "*same day response"* and lack of "*out of hour's access"*. One participant commented:

> *Often they arrange next day clinic; so overnight is a worry*

In contrast, some participants acknowledged being able to access services speedily but felt that once the patient was admitted communication to the GP was poor:

> *Although I can access services rapidly, there is very little feedback from our local services*

> *More communication from the psychiatric team*

> *I think there is a poor link between primary care and the mental health services in our area*

> *They [patients] require more support and follow up*

In addition, some participants reported long waits for routine appointments for patients, sometimes as long as six months. It was evident from a few comments that some individual '*very devoted*' CPNs often saw patients very quickly and were '*supportive, enthusiastic but overworked'.* Comments of this nature appeared to be related to the individual characteristics of the CPN rather than the mental health service itself.

Quality of the service

Many participants expressed concern with the quality of the mental health services in terms of ability to respond appropriately and manage suicidal behaviour. Some participants suggested that there was a need for staff to be trained specifically to help people in suicidal crisis:

> *lack of expert knowledge in dealing with patients in crisis*
> *need more specially trained staff to deal with this growing problem*

Many participants suggested that the service was functional in meeting basic care requirements, however they felt that there was wide scope for improvement:

> *although meeting basic needs room for huge improvement in services*

Many perceived the mental health service as a "slow *service*"; one where the standard of care was person dependent:

> *effective on occasion but that is dependent on personnel on duty*.

Many comments suggested that although the current fiscal constraints have an impact on service quality and provision, improvements are required to meet patient and GP needs in the management of suicidal behaviour:

> *Could be improved. We need Suicide Intervention Team on 24 hour basis, service under pressure*

Impact of the Mental Health service on the outcomes for referred patients in suicidal crisis

Participants were asked to rate the impact of the Mental Health service on a number of variables that related to outcomes of care for referred patients in suicidal crisis. Eleven of non-SCAN GPs (16.4%) agreed that referral to the mental health service reduced incidence of self-harm, 14% (10) agreed that referral to the mental health service enhanced engaged with treatment, and improved coping skills, 13% (9) agreed that referral to the mental health service reduced repetition rates of suicidal crisis and enhanced collaboration with family and just 11% (8) agreed that referral to the mental health service was associated with better patient satisfaction (Figure 3.16).

Figure 3.16: Impact of mental health service service on outcomes for referred patients
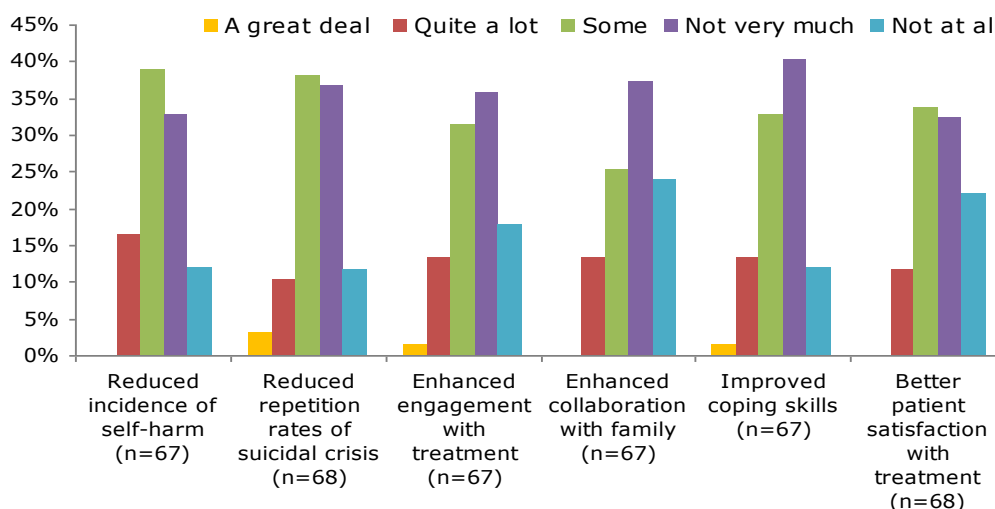
Results were then compared to those of SCAN GPs to explore differences and similarities in perceived impact of the service on outcomes of care. Table 3.9 presents the results of percentage comparison from both groups of perceived impact of suicide crisis assessment service on outcomes of care. GPs rated the SCAN service predominantly as positively impacting the outcomes of care for referred patients with the majority of ratings on all outcomes in the 'a great deal' – 'some' impact categories. In comparison, participants rated the mental health services predominately in the 'some' to 'not at all' impact categories. Each outcome will now be considered separately to investigate differences in perceptions between the two groups.

Outcome: Reduced incidence of self-harm

Over 95% (52) of SCAN GPs rated that the service impacted on reduced incidence of self-harm between 'a great deal' – 'some' (Table 3.9), indicating that the SCAN service has a positive impact in this regard. In comparison, 55% (37) of GPs using traditional mental health services rated the service as impacting 'quite a lot' –'some' on reducing the incidence of self-harm, with the majority of ratings in the 'some' category. Original scores were rank ordered and a Mann-Whitney U-test was used to compare the ranks for SCAN group (n= 57) and the non-SCAN group (n=70). The results indicate a significant difference between the groups in their rating of the impact of the service on reducing incidence of self-harm (u=3157.0, p=0.01). The SCAN service was perceived as having a greater impact on reducing the incidence of self-harm than traditional mental health services.

Outcome: Reduced repetition rates of suicidal crisis

Almost all of SCAN GPs (99%, 55) indicated that the service impacted on reduced repetition rates incidence of self-harm between 'a great deal' – 'some' (Table 3.9). In comparison, 51% (35) of GPs using traditional mental health services rated the service as impacting 'quite a lot' –'some'

on reducing repetition rates, with the majority of ratings in the 'some' category. Original scores were rank ordered and a Mann-Whitney U-test was used to compare the ranks for SCAN group (n= 57) and the non-SCAN group (n=70). The results indicate a significant difference between the groups in their rating of the impact of the service on reducing repetition of suicidal crisis (u=5435.0, p=0.01). The SCAN service was perceived as having a greater impact on reducing repetition rates of suicidal crisis than traditional mental health services.

Outcome: Enhanced engagement with treatment

Almost all of SCAN GPs (99%, 54) indicated that the service impacted on enhanced engagement with treatment between 'a great deal' – 'some' (Table 3.9), indicating that the SCAN service has a positive impact in this regard. In comparison, 46% (31) of GPs using traditional mental health services rated the service as impacting 'a great deal' –'some' on enhancing engagement with treatment, with the majority of ratings in the 'some' category. Original scores were rank ordered and a Mann-Whitney U-test was used to compare the ranks for SCAN group (n= 57) and the non-SCAN group (n=70). The results indicate a significant difference between the groups in their rating of the impact of the service on enhanced engagement with treatment (u=3157.0, p=0.01) The SCAN service was perceived as having a greater impact on enhancing engagement with treatment than traditional mental health services.

Outcome: Enhanced collaboration with family

Over half of SCAN GPs (66%, 37) indicated that the service impacted on enhanced collaboration with family between 'a great deal' – 'some' (Table 3.9). This rating was lower than other outcome variables suggesting that SCAN is not as effective in enhancing collaboration with family as it is with other outcome measures. In comparison, 38% (26) of GPs using traditional mental health services rated the service as impacting 'quite a lot' –'some' on enhancing collaboration with family, with the majority of

ratings in the 'some' category. This rating is lower than non-SCAN GPs rated other outcome measures suggesting that mental health services are not as effective in achieving this outcome measure as they are with some other variables. Original scores were rank ordered and a Mann-Whitney U-test was used to compare ranks for SCAN group (n= 57) and the non-SCAN group (n=70). The results indicate a significant difference between the groups in their rating of the impact of the service on enhanced collaboration with family (u=3157.0, p=0.01). The SCAN service was perceived as having a greater impact on enhancing collaboration with family than traditional mental health services.

Outcome: Improved coping skills

Almost all of SCAN GPs (99%, 54) indicated that the service impacted on improved coping skills for patients between 'a great deal' – 'some' (Table 3.9). In comparison, 47% (32) of GPs using traditional mental health services rated the service as impacting 'a great deal' –'some' on improving coping skills, with the majority of ratings in the 'some' category. Original scores were rank ordered and a Mann-Whitney U-test was used to compare ranks for SCAN group (n= 57) and the non-SCAN group (n=70). The results indicate a significant difference between the groups in their rating of the impact of the service on improved coping skills (u=2843.5, p=0.01). The SCAN service was perceived as having a greater impact on improving patients coping skills than traditional mental health services.

Outcome: Better patient satisfaction with treatment

Almost all of SCAN GPs (99%, 54) indicated that the service impacted on better patient satisfaction with treatment between 'a great deal' – 'some' with over half of participants in the 'great deal'- 'quite a lot' categories (Table 3.9). In comparison, 45% (31) of GPs using traditional mental health services rated the service as impacting 'quite a lot' –'some' on better patient satisfaction with treatment, with the majority of ratings in

the 'some' category. Original scores were rank ordered and a Mann-Whitney U-test was used to compare ranks for SCAN group (n= 57) and the non-SCAN group (n=70). The results indicate a significant difference between the groups in their rating of the impact of the service on better patient satisfaction with treatment (u=3157.0, p=0.01). The SCAN service was perceived as having a greater impact on improving patients coping skills than traditional mental health services.

Overall, GPs with access to SCAN services rated the service significantly higher on its impact on all patient outcomes than those who had access to traditional mental health services.

Table 3.9: Impact of suicide crisis assessment service on outcomes of care

OUTCOME	A great deal		Quite a lot		Some		Not very much		Not at all	
	SCAN %	Non SCAN %	SCAN %	Non SCAN %	SCAN %	Non SCAN %	SCAN %	Non SCAN %	SCAN %	Non SCAN %
Reduced incidence of self-harm	18.2	0	20.0	16.7	56.4	37.9	3.6	33.3	1.8	12.1
Reduced repetition rates of suicidal crisis	14.3	3.0	26.8	10.4	57.1	37.4	1.8	37.3	0	11.9
Enhanced engagement with treatment	14.5	1.5	32.8	13.6	50.9	30.3	1.8	36.4	0	18.2
Enhanced collaboration with family	8.9	0	23.3	13.4	33.9	25.4	33.9	37.3	0	23.9
Improved coping skills	12.7	1.5	27.3	13.7	58.2	31.8	1.8	40.9	0	12.1
Better patient satisfaction with treatment	26.8	0	26.8	11.9	44.6	32.8	0	32.8	1.8	22.5

Impact of mental health service on GPs understanding of suicidal behaviour

Participants were asked if working with the mental health service had impacted on their understanding of suicidal behaviour by rating their responses to three statements related to knowledge and skills in assessing and managing suicidal behaviour. Responses were the same for two statements in that just 7% (5) of participants agreed that their knowledge of suicidal behaviour, and their skills and ability to manage suicidal behaviour had increased 'a great deal' or 'quite a lot', while just 6% (4) agreed that their skills and ability to assess suicidal behaviour had increased 'a great deal' or 'quite a lot'. Fewer than 50% of participants (37) acknowledged that the mental health services had some impact on their understanding of suicidal behaviour (Figure 3.17).

Figure 3.17: Impact of mental health on GP's understanding of Suicidal behaviour (n=69)
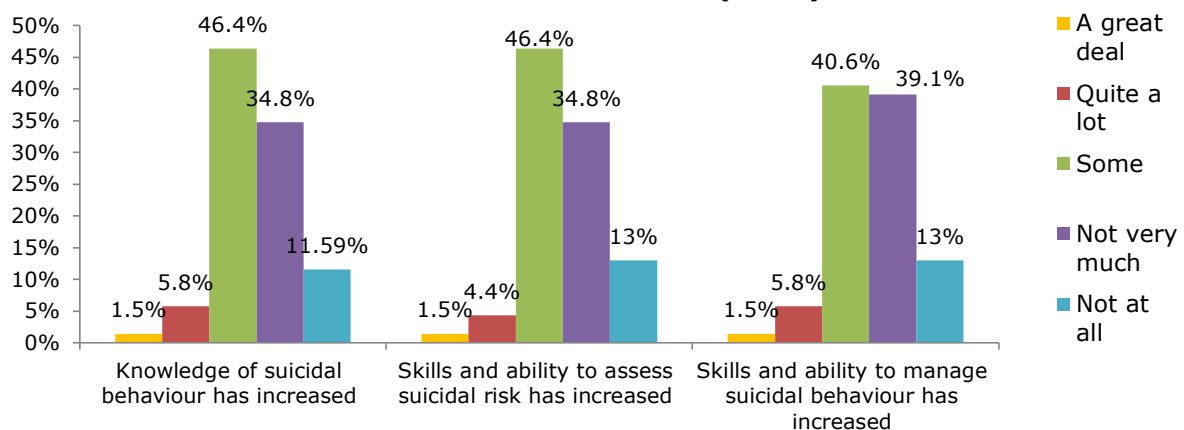
Results of the impact of mental health service on GPs understanding of suicidal behaviour were compared to those of GPs using SCAN services. The GPs who had access to SCAN services (m=3.05, SD=0.907) rated the impact of the service on increasing their knowledge of suicidal behaviour significantly higher than those GPs in the non-SCAN group (m= 2.49, SD=0.834) (t (125) = 3.61, p=.01, d=0.559).

Results of the impact of mental health service on GPs skills and ability to assess suicidal risk were compared to those of GPs using SCAN services. The GPs who had access to SCAN services (m=3.07, SD=0.835) rated the impact of the service on increasing their skills and ability to assess

suicidal risk significantly higher than those GPs in the non-SCAN group (m= 2.45, SD=0.832) (t (125) = 4.175, p=.01, d=0.620).

Results of the impact of mental health service on GPs skills and ability to manage suicidal behaviour were compared to those of GPs using SCAN services. The GPs who had access to SCAN services (m=3.03, SD=.858) rated the impact of the service on increasing their skills and ability to manage suicidal behaviour significantly higher than those GPs in the non-SCAN group (m= 2.42, SD=.847) t (125) = 4.047, p<.01, d=0.614).

Elements of the mental health service most valued by GP's in relation to suicidal crisis assessment

GPs in the non-SCAN sites were asked to rank the elements they most value in the in relation to suicidal crisis assessment in the mental health service in order of preference from 1st to 6th (1=most valued, 6= least valued) Figure 3.18 shows that the ability to stabilise and manage a suicidal crisis was ranked as the most valued service (m=1.4). Timely access to mental health services was also highly valued (m= 2.2). The least valued elements were the provision of counselling (m= 4.2) and links to community based non-statutory resources m= 5.5).

Figure 3.18: Elements most valued by GPs in mental health service in relation to suicide crisis assessment (n=65)
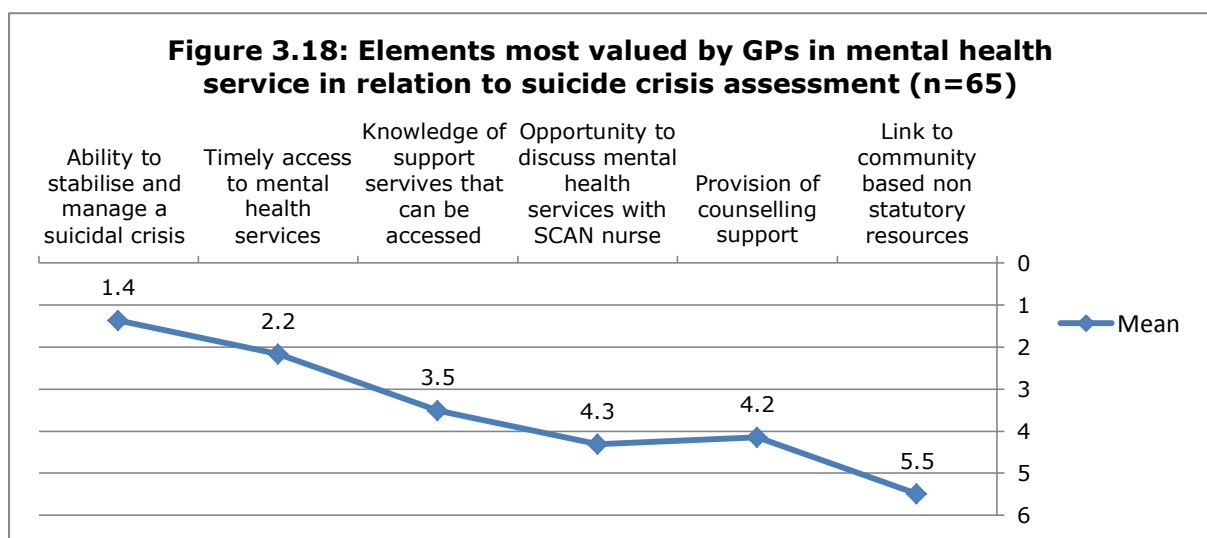
Responses of GPs in the non-SCAN group were compared to those of GPs in the SCAN group to investigate whether there were differences in perceptions around the elements of the service that were most valued (Table 3.10). Results revealed that both groups had similar ratings across all elements both in terms of rankings and in mean score allocated. Independent t-test between each of the variables confirmed that there were no statistically significant differences in the mean ratings of the groups on any of the elements.

Table 3.10: Elements most valued in a suicide crisis assessment service

Element rating	SCAN GP	SCAN GP Mean	Non SCAN GP	Non SCAN GP Mean
1st	Ability to stabilise and manage a suicidal crisis	1.3	Ability to stabilise and manage a suicidal crisis	1.4
2nd	Timely access to mental health services	2.7	Timely access to mental health services	2.2
3rd	Knowledge of support services that can be accessed	3.4	Knowledge of support services that can be accessed	3.5
4th	Opportunity to discuss mental health services with SCAN nurse	4.0	Opportunity to discuss mental health services with SCAN nurse	4.3
5th	Provision of counselling support	4.2	Provision of counselling support	4.2
6th	Link to community based non statutory resources	5.5	Link to community based non statutory resources	5.5

Satisfaction with the mental health service in managing patients in suicidal crisis

Participants were asked to indicate their level of satisfaction with the mental health service response in meeting their needs managing patients in suicidal crisis. Over 35% of participants (24) reported being extremely satisfied or satisfied. A further 40.6% (28) rated themselves as neither satisfied nor dissatisfied and 23.5% (16) reported being dissatisfied with the mental health service (Figure 3.19).

Figure 3.19: GP's satisfaction with Mental Health service (n= 57)
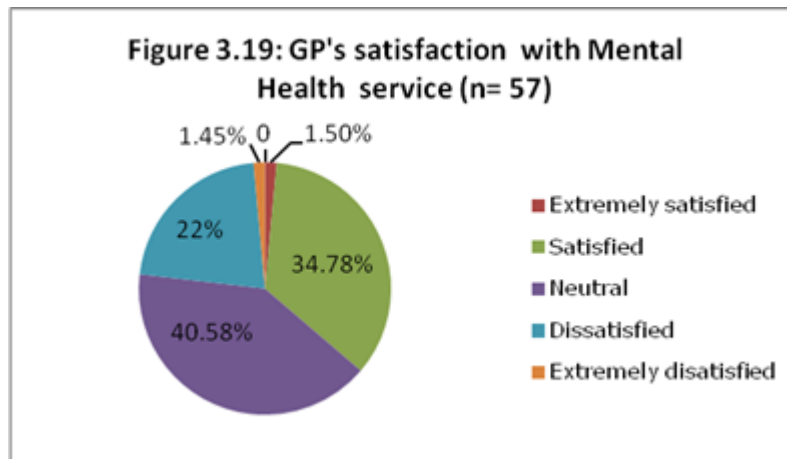
Results were compared to those of SCAN GPs to investigate whether there was a difference in the level of satisfaction between the groups. The GPs who had access to SCAN services rated their overall satisfaction with the service (m=1.71, SD=.496) as significantly higher than those GPs in the non-SCAN group (m= 2.87, SD=.821), (t (125) = -9.433, p=0.01, d=-1.163)

Additional comments about patients in suicidal crisis accessing the Mental Health service.

Participants were invited to add any additional comments they wished to make about patients in suicidal crisis accessing the mental health service. A total of twenty two participants (18%) provided comments.

The main theme in all of the comments was around the need for the mental health service to operate from a 'sense of urgency' in treating the acutely ill suicidal patient and that suicidal behaviour needs a dedicated service. One participant commented:

this should be treated like an acute medical emergency

Some participants suggested that suicidal behaviour required a national whole community response:

There is no easy answer to this major public health issue that plagues our country. We need societal changes, as the medical and nursing professions cannot alleviate a dysfunctional society that change must come from the citizens themselves.

Many participants highlighted the need for an alternative to in-patient care for those patients in suicidal crisis. Many felt that this care option was frequently not in the best interest of the patient because it removed them from their support network which was based in the wider community. Many participants commented on the need for a better mental health service and suggested that a re-evaluation of services was required urgently. Many commented on the current fiscal crisis impacting on the service and causing a dramatic reduction in the ability of current services to meet the needs of patients in suicidal crisis.

Conclusion

This chapter presented the method and results of the quantitative phase of the SCAN evaluative study. It detailed the methodology used, instrument development and data collection strategies. Results from the survey were presented in three sections: demographic details and specific study characteristics of all participants, responses from SCAN GPs and finally responses from non-SCAN GPs on study variables. Comparisons were made between groups on a number of variables relating to assessment and management of patients in suicidal crisis.

Main findings included:

- The majority of participants rated themselves as confident in assessing and managing patients in suicidal crisis. There was no significant difference between the SCAN and non-SCAN groups in confidence levels.

- More than 37% of participants had undertaken training in suicide/deliberate self-harm and more than 70% had undertaken training in depression.
- Training significantly positively impacted on confidence in assessing and managing suicidal behaviour.
- The majority of GPs in both groups report seeing at least 1-5 patients in suicidal crisis annually.
- Patients considered to be at greatest risk i.e. *patients with suicidal thoughts, intent to harm themselves and have a plan',* were most frequently referred to the suicide crisis assessment services by SCAN and non-SCAN GPs.
- The majority of referred patients are seen by the third day in both services, however the mental health service had the higher proportion of patients that were seen the same day of referral.
- Almost all SCAN participants agreed that the SCAN service leads to better treatment adherence than usual care and patients are more readily agreeable to being referred to SCAN.
- Overall, GPs with access to SCAN services rated the service significantly higher on its impact on identified patient outcomes than those who had access to traditional mental health services.
- SCAN GPs rated the impact of the service on their knowledge and skills in assessing and managing suicidal behaviour significantly greater than colleagues that use the mental health service.
- The ability to stabilise and manage a suicidal crisis and timely access to services were the elements of the service that were ranked as most preferred by both groups.
- The GPs who had access to SCAN services rated their overall satisfaction with the service significantly higher than those GPs in the non-SCAN group rated usual mental health services.

Part 4. Economic Evaluation of SCAN

Introduction

This section outlines the economic evaluation of the SCAN service. In exploring the economic case for this or any particular health service, it is first useful to detail a framework concerned with the underlying question of how we define a healthcare intervention as being cost effective. In general, there are two ways in which any health service may be deemed worthwhile from an economic perspective. In both cases, the initial investment expenditures required to implement the project should be considered against the downstream effects, in terms of both health outcomes and resource utilization that are likely to result. In the first instance, a project may be deemed cost effective if the initial investment expenditures are likely to be outweighed by future cost savings that are expected to arise. For example, receiving appropriate care in a timely manner, as opposed to receiving insufficient or no care, may reduce the need for costly hospital inpatient services in the future. While reductions in out-of-pocket expenses for patients are also important, the emphasis, if possible, should be on savings to the healthcare system. That is, while a broader societal perspective which includes impact of care on patient expenses is of interest, decision makers in many countries tend to focus on the healthcare perspective. In the second instance, a project may be deemed cost effective even if the initial investment expenditures are not likely to be recovered through cost savings elsewhere. In this case, the health benefits generated by the project would need to be sufficient enough to convince decision makers that the additional expenditures are worthwhile. Indeed, in the current climate of increasing pressures on already constrained healthcare budgets, and the resulting demands for new healthcare programmes to be cost neutral, it is advisable, if at all possible, to present the economic case in this manner. That is, in addition to identifying clinical benefits to patients and operational benefits to the health service, there should be an attempt to quantify in monetary

terms the future reductions in costs that are likely to arise as a result of implementing the project.

Ideally, we would evaluate the effectiveness of such a programme by comparing the outcomes and costs associated with the programme with the outcomes and costs of an alternative to the programme (for example, with a programme that might be regarded as 'treatment as usual'). The outcomes associated with an intervention such as SCAN can be identified either indirectly through area-based analysis of some relevant variables or directly through an analysis of the health outcomes of the individuals seen by the SCAN service. At the area level possible outcomes might be the number of suicides, the number of attempted suicides or the number of incidents of deliberate self-harm in the area where the intervention has been introduced. However, the effectiveness of such programmes is difficult to capture using traditional quantitative economics or health services research methods. The number of suicides in any particular mental health catchment area is small, and is subject to such random variation from year to year that it is impossible to ascribe any changes in such an outcome to the effects of a programme such as SCAN. This problem is not limited to an evaluation of the SCAN service. While et al (2012: 1005) note that 'most studies of the relation between service intervention and suicide rate are limited by small sample sizes, short follow-up periods after intervention, cross-sectional rather than prospective designs, and infrequent collection of data on service-related variables'.

In addition to the incidence of suicide we could also examine data on attempted suicide. However, it is very likely that some suicide attempts are not reported to the health authorities and therefore the data on attempted suicide is unlikely to be reliable. We have paid more attention to data on deliberate self-harm (DSH) where reliable estimates of the number of cases dealt with in hospitals are now available. For several years the National Suicide Research Foundation (NSRF) has collected data

from hospitals in Ireland on incidents of DSH. We don't have a full statistical model explaining the variation in DSH by area over time. The data on DSH in 2007 and 2011 suggests that the change in the rate of DSH in the Cluain Mhuire area between 2007 and 2011 was very similar to the change in the DSH rate nationally. The change in the rate of DSH by males in Wexford between 2007 and 2011 was 7% compared to a national figure of 27% while the change in the female DSH rate in Wexford was the same as the change in the DSH rate nationally. A full statistical model explaining the variation in DSH across areas and over time cannot be completed until the small area Census data from 2011 is released.

An alternative to the area-based or ecological approach is to focus on the health outcomes of the individuals that were seen by the SCAN service in a particular time period, such as a year. Had resources been available it might have been possible, for example, to establish a comprehensive data gathering service that could have measured the state of mental health and suicide ideation of each person seen by SCAN at regular intervals after they first presented to SCAN. There are many challenges in doing this. There are likely to be ethical issues, given that the number of individuals is likely to be small. In addition, some individuals may be reluctant to present themselves at regular intervals so that their state of mental health can be assessed. Systematically collecting this data can also be an expensive exercise. Notwithstanding these issues, we recommend that if the SCAN service is extended to other areas in Ireland, more consideration be given to tracking the mental health and suicidal behaviour of the service users that are seen by SCAN.

Our focus has therefore shifted to calculating the total health care costs associated with the SCAN service in a particular area in a particular year, with the aim of comparing these costs with the total healthcare costs of a hypothetical identical group of patients in a non-SCAN area. The goal is to estimate whether the SCAN service results in higher or lower total

healthcare costs. The qualitative evidence from interviews with doctors and service users, and the survey evidence from the SCAN doctors, suggest that SCAN is a worthwhile service that should be implemented if an economic argument can be made that the SCAN service reduces costs. Ideally we would have included indirect costs as well as direct costs to capture the full effect of the SCAN service on society. However, the data available on the people who availed of the SCAN service did not include any data on indirect costs such as the provision of informal care, so we had no way of estimating whether such costs had increased or decreased as a result of SCAN. In addition, since the evaluation is being done from a health service point of view most analysts would recommend against including indirect costs.

The results from this analysis will be used to explore a hypothesis that the initial cost outlays required to implement the SCAN intervention in clinical practice may be outweighed by reductions in the need for other more costly inpatient hospital based services. Alternatively, we could pose the question of what reduction in current hospital admissions, both general and psychiatric, would be required to ensure that all costs are recouped. If either proves to be the case, an economic argument can be made for the publically funded implementation of the service in broader practice.

Methodology

The methodological approach for the evaluation of the SCAN project explores whether the costs associated with implementing the programme in clinical practice can be offset by potential cost savings elsewhere in the health system. To this end, we employ a decision-tree modelling framework to incorporate a range of resource activity and unit cost data for a cohort of individuals who participated in the programme in a single year in each catchment area where the SCAN service was introduced. We decided to carry out separate analyses of the Wexford and Cluain Mhuire catchment areas for a number of reasons. First of all, the data that was available to us in each area was not the same. For some variables, we

were able to obtain better individual level data for Cluain Mhuire than for Wexford, while the reverse was true for other variables. Secondly, the two catchment areas were quite different from each other in the extent to which the SCAN service was used by the doctors in each area. Lastly, the service users in each area were quite different as regards to their mental health antecedents. This partly reflects the significant differences in the community-based mental health services available in each area.

Wexford

The evaluation process involves the comparison of the expected costs of care for two hypothetical scenarios: (a) SCAN Programme; (b) Usual Care (consisting of No Scan Service). Three categories of resource use are included and costs calculated for analysis: (1) Patient Identification, (2) SCAN Consultation; and (3) Referral Post SCAN. Resource use and costs are expected to differ across the two hypothetical scenarios. Specific resource use for each category has been obtained from the data for the 171 individuals who were referred to SCAN by their GP in the Wexford catchment area in 2011. Resource uses are valued using a vector of Irish unit cost data and the total expected cost of care for each scenario will be calculated and compared. A range of sensitivity analyses will be undertaken to explore the implications of the assumptions adopted in the analysis.

The estimated healthcare costs associated with the SCAN service in Wexford are reported in Table 4.1. Our calculations are based in part on actual data and in part on estimated or extrapolated data. We had actual data for each service user regarding the follow up mental health care, substance abuse and emotional care. That data reported whether the person was referred to a particular type of care, but did not indicate how many times a particular service was used. We obtained detailed service use data on a small number of patients, calculated the average use from this sample, and applied this average to all the service users in 2011.

Table 4.1 – Cost Analysis

Resource Activity	Resource Use	Unit Cost (€)	Estimated Costs (€)
Implementation Costs			
SCAN Service			178,859.09
Follow Up Costs			
Mental Health			
Primary Care	99	185.96	18,410.04
Community Mental Health Team	36	377.57	13,592.52
Inpatient care	4	7,651.91	30,607.64
Subtotal			62610.2
Substance Abuse			
Community Substance Abuse Team	4	185.96	743.84
Substance Abuse Counsellor	17	28	476
Subtotal			1,219.84
Emotional Health			
Counselling	64	211.01	13504.64
Suicide Research Officer	2	28	56
Subtotal			13560.64
Total Follow Up Costs			77390.68
Total Cost			256,249,77

Note: Wexford: 2011 Data Summary; Unit costs are presented in Euros (€) in 2011 prices

Scenario Analysis

While estimating costs of care is a necessary step in the evaluation of any health care service, it is not sufficient when attempting to address the broader question of cost effectiveness. Given the available data, the effectiveness or cost effectiveness of the SCAN service cannot be quantified in the traditional health services research sense. If we make the (not unreasonable) assumption, that this intervention is effective in identifying and managing at-risk individuals, the cost effectiveness argument will centre on whether the costs of implementing the service could potentially be recouped elsewhere. In attempting to answer this question, we must speculate what would have happened to the individuals who used the SCAN service, in terms of their health care resource utilization and costs, were the service not to have existed. To this end, we develop a number of scenarios where such individuals access the healthcare system at alternative junctures and cost this care. While this is by no means an exact process, it does give some sense of the counter factual whereby the SCAN service was not implemented and the likely differences in resource use and health care costs that would have been incurred. Through specifying these scenarios and costing their associated care pathways, we can compare the cost of SCAN to a range of do-nothing scenarios and speculate as to its cost effectiveness. Importantly, however, we focus entirely on costs of care and make no attempt to quantify the benefits of the service in terms of reduced suicides rates or otherwise. The quantification of such benefits is beyond the remit of this evaluation.

Wexford: Scenario 1

In Scenario 1 an additional 50 people were admitted to inpatient services. 25 fewer people were treated by their GP and 25 fewer by the Community Mental Health Team. 25 fewer people attended counselling and 7 fewer people attended a Substance Abuse counsellor.

The estimated costs under this scenario are reported in Table 4.2.

Table 4.2 – Cost Analysis of Scenario 1

Resource Activity	Resource Use	Unit Cost (€)	Estimated Costs (€)
Mental Health			
Primary Care	74	185.96	13,761.04
Community Mental Health Team	11	377.57	4,153.27
Inpatient care	54	7651.91	413,203.1
Subtotal			431,117.5
Substance Abuse			
Community Substance Abuse Team	4	185.96	743.84
Substance Abuse Counsellor	7	28	196
Subtotal			939.84
Emotional Health			
Counselling	39	211.01	8,229.39
Suicide Research Officer	2	28	56
Subtotal			8,285.39
Total			440,342.7

Note: Unit costs are presented in Euros (€) in 2011 prices

If we compare the total cost of Scenario 1 we can see that it is much higher than the actual cost estimated in Table 4.1. It is readily apparent that the key difference between the two estimates is due to the far higher number of people admitted to inpatient care under Scenario 1. How plausible is this increase? There are two reasons for thinking that the introduction of the SCAN service is economically cost effective. The first is that there has been a decline in the number of people admitted to the local psychiatric hospital (St. Senan's) since the SCAN service was introduced. The annual reports of the Activities of Irish Psychiatric Hospitals published by the Health research Board contain the numbers of people admitted to individual psychiatric hospitals each year and also data on the lengths of stay in each hospital. The total admissions in the Wexford Mental Health Catchment area averaged 683 in the period 2002 to 2008 and fell to an average of 610 in 2009-2010 (data for 2011 is not yet available). This represents a decline of almost 11% at a time when the corresponding figures for all psychiatric hospitals and units in Ireland showed no change . It is reasonable to ascribe some of this decline to the introduction of the SCAN service. The second reason for thinking that the SCAN service may lead to reduced admissions is based on what the doctors we surveyed have said. When asked how they would normally deal with patients who present in suicidal crisis, doctors in the non SCAN areas were much more likely to say that they would refer the patient to either A & E or to inpatient service. Over 75% of the doctors in the non-SCAN areas referred such patients to a hospital, while just over 40% of the doctors in the SCAN areas would do so. Interviews with mental health professionals in non-SCAN areas suggest that some people in suicidal crisis are admitted to psychiatric hospitals or units as a precautionary measure, because an alternative method of dealing with the suicidal crisis is not readily available in the primary care arena

The results in Scenario 1 indicate that not only is SCAN likely to lead to better health outcomes on a range of measures that we cannot identify, but that it also leads to a substantial saving of resources.

However, there were a number of local factors that contributed to the decline in admissions to psychiatric services in Wexford. There was an expansion of day hospital services in Wexford during this time. Secondly, the Wexford area had historically a relatively large number of psychiatric admissions related to alcohol abuse and there was a decline in the practice of admitting people with such problems in recent years. Ascribing a decline of 50 inpatient admissions to the SCAN service is probably overestimating the effect of SCAN. Furthermore, Scenario 1 assumes that all of the 50 additional people admitted to inpatient psychiatric services would stay in hospital for 22 days (the average stay in Ireland in 2011). That assumption is also questionable, as it is likely that many of the people who might be admitted in the absence of SCAN stay in hospital for relatively short stays. This argument is supported by data from the National Psychiatric In-Patient Reporting System (NPIRS) which shows that much of the decline in admissions to St. Senan's hospital was accounted for by a decline in stays of less than 1 week.

To account for this we have re-estimated the total healthcare costs in Scenario 2. This assumes an increase of 25 people being admitted to inpatient services compared to the actual number admitted in 2011. It also assumes that they remain in hospital for one quarter of the average stay rather than the average stay. The results are reported in Table 4.3.

Table 4.3 – Cost Analysis of Scenario 2

Resource Activity	Resource Use	Unit Cost (€)	Estimated Costs (€)
Mental Health			
Primary Care	86	185.96	15,992.56
Community Mental Health Team	24	377.57	9,061.68
Inpatient care	4	7651.91	30,607.64
	25	1,912.98	47,824.44
Subtotal			103,486.30
Substance Abuse			
Community Substance Abuse Team	4	185.96	743.84
Substance Abuse Counsellor	7	28	196
Subtotal			939.84
Emotional Health			
Counselling	39	211.01	8,229.39
Suicide Research Officer	2	28	56
Subtotal			8,285.39
Total			112,711.50

Note: Unit costs are presented in Euros (€) in 2011 prices

The results in Table 4.3 are significantly different than those in Table 4.2. The total estimated costs under Scenario 2 are now estimated to be substantially *less* than the total costs under the SCAN service. However, that does not mean that the SCAN service is not an economically reasonable allocation of resources. We now need to bear in mind the range of benefits that the SCAN service is likely to bring about. These include reduction in DSH and attempted suicide, increase in adherence to treatment, increased satisfaction of patients with their recovery from suicidal crisis, improvement in general mental health, and fewer people left with negative thoughts associated with having been admitted to a psychiatric hospital. As we have said already we have no way of measuring these benefits let alone valuing them, but one crude way of thinking about this is that as the SCAN service dealt with 173 people in 2011 they would have to receive benefits worth an average of just under €830 per person for the service to be beneficial from a cost benefit perspective.

The key issues are the number of people admitted to inpatient services under each scenario and the length of time that a person so admitted spends in hospital. The cost of an average (22 day) stay in a psychiatric hospital is €7,652. Focusing on that cost in itself suggests that the SCAN service would pay for itself if it resulted in 23 fewer people being admitted to psychiatric hospitals for an average stay.

Cluain Mhuire catchment area

We decided to focus on 2008 as the most representative year of the implementation of SCAN in Cluain Mhuire. We obtained more detailed patient level data for the service users in the Cluain Mhuire catchment area. Our approach is the same as outlined above. We calculated the total healthcare costs for 2008 and then ran some simulations to estimate what the total healthcare costs for the same group of service users would have been in the absence of SCAN.

For each individual that was referred to the SCAN service, we had data on the number of days that each person subsequently spent in a psychiatric hospital in 2008. We also had data on the number of appointments that each person had with both a day hospital and with an outpatient department. We had detailed information on the nature of each visit to the outpatient department and were able to calculate the cost of each appointment. We also had data on the medication that each person was given and the number of weeks that the medication was prescribed for. We did not have data on resource use for emotional care or substance abuse care.

The total cost for 2008 is reported in Table 4.4.

Table 4.4 – Cost Analysis

Resource Activity	Resource Use	Unit Cost (€)	Estimated Costs (€)
Implementation Costs			
SCAN Service			71,000
Follow Up Costs			
Day Hospital	357	150	53,550
Inpatient care	223	326	72,698
Outpatient Department	465	varies	31,711
Medicine			3,000
Total Follow Up Costs			157,959
Total Cost			228,959

Note: Cluain Mhuire: 2008 Data Summary; Unit costs are presented in Euros (€) in 2008 prices

The main issue again is to consider what resources would have been used for the 58 people that SCAN dealt with in 2008 had the service not been

in place. We consider it likely that the use of inpatient facilities would have been considerably higher. As with Wexford the NPIRS data shows that there was a large fall in the number of people admitted to inpatient psychiatric services in the Cluain Mhuire catchment area in the period after SCAN was introduced. The average number of people admitted between 2008 and 2010 was over one third less than the average number of people admitted between 2002 and 2007. Most of this decline was due to a large decline in the number of people admitted for short stays of less than one week. This bolsters the argument that SCAN is effective in providing a gate-keeping service that reduces the likelihood of people being admitted to hospital when hospital admission is not the most appropriate treatment for them. Further evidence for the impact of SCAN on inpatient use can be found in an unpublished study carried out by Paul Moran. He compared the number of people admitted to hospital in the weeks after SCAN was introduced with the number of people admitted in the weeks before and found that there had been a very large reduction in the number of people admitted to hospital.

The first simulation exercise we conducted assumed that the number of inpatient days would have been three times higher had the SCAN service not been in place. We assume that the number of days in day hospitals would have been 25% lower and that the total costs accounted for by outpatient department appointments would also have been 25% lower. We assume no change in the cost of medication. The results are reported in Table 4.5.

Table 4.5 – Cost Analysis, Simulation 1 (Cluain Mhuire)

Resource Activity	Resource Use	Unit Cost (€)	Estimated Costs (€)
Follow Up Costs			
Day Hospital	268	150	40,200
Inpatient care	669	326	218,094
Outpatient Department	349	varies	23,783
Medicine			3,000
Total Follow Up Costs			285,077
Total Cost			285,077

We estimate that the total healthcare cost of the 58 patients seen by SCAN would have been €285,077 in 2008 had the service not been in place. The increase in health care costs of €127,118 is much greater than the costs of the SCAN service in 2008.

As with the Wexford data the key issue is how reasonable are the assumptions made in the scenario analysis. For comparison we carried another simulation based on the assumption that the number of inpatient beds used would have doubled instead of trebled had the SCAN service not been in place. The results are reported in Table 4.6.

Table 4.6 – Cost Analysis, Simulation 2 (Cluain Mhuire)

Resource Activity	Resource Use	Unit Cost (€)	Estimated Costs (€)
Follow Up Costs			
Day Hospital	268	150	40,200
Inpatient care	446	326	145,396
Outpatient Department	349	varies	23,783
Medicine			3,000
Total Follow Up Costs			221,379
Total Cost			212,379

If we compare Table 6 and Table 4 we can see that the follow up healthcare costs associated with the 58 patients seen by SCAN would have been higher had the SCAN service not been in place. However the difference in these costs (€55,420) is less than the cost of the SCAN services in 2008 (€72,000). In that case the higher costs are still likely to be worthwhile when we take into account the better health outcomes that are likely to have been realised for the 58 people referred to the SCAN service.

Conclusion

The SCAN service serves a number of roles. From a health economics perspective, it can be regarded as a gate-keeping service which reduces the likelihood of inappropriate admissions to inpatient psychiatric care. In addition the SCAN service provides important direct health benefits to the patients it sees as is clear from the interviews conducted with service users.

The effectiveness of programmes such as SCAN is difficult to capture using traditional quantitative economics or health services research methods. As outlined above, our analysis focused on comparing the healthcare costs associated with the SCAN service with an estimate of what these costs would have been had the SCAN service not been in place. The key variable in our analysis is the effect that the SCAN service has on reducing the number of people admitted to inpatient psychiatric care. There is plausible evidence in both Wexford and Cluain Mhuire that the decline in inpatient admissions since 2008 is related to the introduction of the SCAN service. The proportion of the reduction in inpatient admissions that can be ascribed to the SCAN service is harder to determine. Under reasonable assumptions about the size of effect, we have found that the SCAN service resulted in a reduction of healthcare costs. But we have also shown that it is possible that the SCAN service led to an increase in healthcare costs (taking account of the direct costs of the SCAN service itself). In those scenarios, it is still likely that the SCAN service makes sense from an economic point of view as the SCAN service is likely to have been responsible for an improvement in the health of those referred to it at a relatively low cost.

Integrated Findings from Evaluation of SCAN

This study undertook an evaluation of the Suicide Crisis Assessment Nurse (SCAN) Service. The purpose of this section is to summarize some of the main findings across data sets and to present a synthesis of these and make comments where appropriate.

The tabulated results, over the following pages, present data from across data sets; integrating findings by identifying similarities and differences across those data sets. The table has four columns. Column 1 summarises the main qualitative findings from interviews undertaken with key stakeholders; column 2 presents findings from the survey data, column 3 presents findings from the economic analysis. Column 4 makes comments across data sets and identifies when data is confirmed or refuted.

Column 1	Column 2	Column 3	Column 4
Qualitative Findings	Survey Findings	Economic analysis	Comment
Before SCAN health professionals reported no alternative but admit to hospital or send to A&E	43% SCAN GPs refer patients in suicidal crisis for admission to inpatient services. In comparison over 67% of non-SCAN GPs refer patient in suicidal crisis for admission to inpatient services.	SCAN is regarded as a gatekeeping service which reduces the likelihood that inappropriate admission to in-patient psychiatric care. Reduction in in-patient admissions found in both SCAN sites	Data from all sources confirm that without SCAN people in suicidal crisis more likely to be referred to hospital.
Before SCAN participants reported that there was a delay in being seen by mental health services	SCAN GPs valued timely access to a mental health assessment, accessibility noted as improved.	Time before scan not examined	Findings across data sets confirm that SCAN provides more timely access
SCAN was perceived to be accessible, prompt, convenient and confidential	Patients in non-Scan sites seen more quickly in first 12 hours :30% v's 12% in SCAN sites. However >46% of patients seen by SCAN the following day compared with 4.35% of non-SCAN. > 90% seen by SCAN by 2 days v's 66.7% non-SCAN. One third of GPs were extremely satisfied (31.58%) with the SCAN service and well over half were satisfied (66.67%), while none of the GPs were dissatisfied with SCAN	SCAN enables people to remain utilising community services	Survey findings confirm interview data that SCAN facilitated more timely review overall

SCAN engagement, was perceived as more therapeutic.	Half of the GPs (54%) agreed that SCAN was associated with better patient satisfaction and enhanced engaged with treatment (47%). 41% agreed that SCAN reduced repetition rates of suicidal crisis and, improved coping skills (40%). Over a third (38%) agreed that SCAN reduced incidence of self-harm and enhanced collaboration with family (32%)	SCAN, more likely to keep people out of hospital, reductions in admissions in SCAN sites. SCAN utilised range of support facilities, including substance abuse and counselling	All data sets confirm that SCAN associated with reduction in hospital admissions and reduction in DSH
Referral from SCAN	Over 78% of GPs with access to SCAN service reported referring patients regularly to the service. The majority (83.3%) agreed that the SCAN service leads to better treatment adherence than usual care.	159 people referred to Cluain Mhuire SCAN service (2007-10); 503 referred to Wexford SCAN service (2008-11).	Some evidence that SCAN may lead to better treatment adherence
Impact of SCAN on person: taken seriously, lack of stigma	Almost all SCAN GP participants (92.5%) agreed patients are more readily agreeable to being referred to SCAN as they perceive it as being outside the mental health and therefore less stigma attached. Over half of the GPs (56.6%) agreed that they refer people to SCAN, that they would have otherwise refer to the mental health service	70% of people in non-SCAN areas referred to mental health services versus 40% in SCAN.	Evidence across data sets that SCAN leads to reduction in referral to mental health services.
Impact of SCAN on	Over 78% of SCAN GPs	No further data	Data from 2

professional: empowered, collaborative working, building relationships, learning from each other	reported that working with SCAN had positively impacted on their understanding of suicidal behaviour. Similarly, 80% reported a positive effect on their ability to assess suicidal risk and 76% reported a positive impact on their skills and ability to manage suicidal behaviour.	gathered	sources indicated that SCAN participation increased understanding of suicidal behaviour and management.
Need for clear guidelines	GPs did not appear to perceive a problem in relation to guidelines for referral to SCAN. Over 65% reported the referral criteria 'rarely' or 'not at all' causing an issue with the remainder indicating that it can 'sometimes' be an issue.	No further data gathered	No clear evidence here, perception that clearer guidelines needed was not supported by survey data.
Need for follow-up following SCAN assessment	GPs experience of the follow-up process after referral of a patient to the SCAN service appeared to vary. Over a third of GPs (38.6%) reported that they followed up the patient themselves after the initial assessment by SCAN. In contrast (29.8%) of participants indicated that the SCAN service followed up the patient and periodically reported to the GP and a further (28%) reported that follow-up was on a liaison basis between SCAN and GP.	No further data gathered	Clear need for clarification about who is responsible for follow up following SCAN assessment.

Problems with perception that always on-call	Not reported	Not reported	Issue identified only in interviews
SCAN staff reported the need for support	Not reported	Not reported	Needs identified only in interviews
Lack of clear Governance	Not reported	Not reported	Issue identified only in interviews
There was a need to communicate clearly to GPs about the SCAN service	Not reported	Not reported	Issue identified only in interviews

Conclusions

- Data from all sources confirm that without SCAN people in suicidal crisis more likely to be referred to hospital.
- Findings across data sets confirm that SCAN provides more timely access.
- Survey findings confirm interview data that SCAN facilitated more timely review overall.
- All data sets confirm that SCAN associated with reduction in hospital admissions and reduction in DSH.
- Some evidence that SCAN may lead to better treatment adherence.
- Evidence across data sets that SCAN leads to reduction in referral to mental health services.
- Data from 2 sources indicated that SCAN participation increased GPs understanding of suicidal behaviour and management.
- Clear need for clarification about who is responsible for follow up following SCAN assessment.

Recommendations

- GP training sessions in suicide/self-harm should be embedded into continuous professional development programmes provided by their primary care organisation.

- Clear guidelines/protocols need to be in place to identify what are, and are not, appropriate referrals to SCAN and how the referral process should be managed.

- Clear guidelines/protocols need to be in place to identify who is responsible for follow up following SCAN assessment.

- The full range of demands on SCAN staff need to be acknowledged and top level management commitment to appropriate governance, support and supervision needs to be maintained and regularly reviewed.

- The maintenance of adequate staffing levels needs to be prioritised, including appropriate administrative support.

- The position that SCAN occupies, what it offers and how it integrates with other services, within a changing and challenging healthcare environment, needs to be clearly articulated, periodically reviewed and constantly promoted.

- If the SCAN service is extended to other areas in Ireland, development of agreement as to what constitutes the essential core components of a SCAN service and what components may be varied due to local circumstances needs to be developed. If SCAN is to be rolled out, its chances of being successful are also much higher if, (a) all or most of the GPs in the area support it, and (b) if the mental health services in the area wholeheartedly support it.

- If the SCAN service is extended to other areas in Ireland, more consideration needs to be given to tracking the mental health and suicidal behaviour of the service users that are seen by SCAN. The maintenance of comparable databases at each SCAN site would be essential.

- If the SCAN service is extended to other areas in Ireland, the encouragement of networking between SCAN services would be highly desirable.

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Appendix 1

SCAN Evaluation GP Questionnaire (SEGPQ)

* 1. **Gender**
   ○ Male
   ○ Female

* 2. **Age Group**

25-35	36-45	46-55	56-65	66+
○	○	○	○	○

* 3. **Number of years working as a GP**
   ○ 0-5   ○ 6-10   ○ 11-15   ○ 16-20   ○ 21-25   ○ 26-30   ○ 31-35   ○ 36 or more

* 4. **Where is your practice located?**
   ○ Rural   ○ Urban

* 5. **Work hours**
   ○ Full time
   ○ Job sharing
   ○ Part time (If part time time please specify the number of hours in the 'additional comments' box below)
   ○ Other
   ○ If other, please specify

   _____

   Additional Comments

   _____

* 6. **How confident are you in assessing suicide risk in a patient?**
   ○ Extremely confident
   ○ Very Confident
   ○ Moderately confident
   ○ Slightly confident
   ○ Not at all confident

* 7. **How confident are you in responding to a patient in suicidal crisis?**
   ○ Extremely confident

○ Very Confident
○ Moderately confident
○ Slightly confident
○ Not at all confident

* 8. How confident are you in dealing with the ongoing needs of suicidal patients?
○ Extremely confident
○ Very Confident
○ Moderately confident
○ Slightly confident
○ Not at all confident

* 9. Have you previously undertaken suicide/deliberate self-harm training?
○ Yes
○ No

10. **What was the format of suicide/self harm training that you have undertaken?**
    - ❑ Evening talk/information session
    - ❑ Programme of evening talks
    - ❑ A half day workshop
    - ❑ One day training course
    - ❑ Tutorials during training
    - ❑ Posting in Psychiatry
    - ❑ Other
    - ❑ If other, please specify

    _____

11. **When did you undertake the most recent training in suicide/deliberate self-harm?**
    - ○ Within the last year
    - ○ 1-2 years ago
    - ○ 3-5 years ago
    - ○ More than 5 years ago

* 12. **Have you previously undertaken training in the assessment and management of depression?**

○ Yes

○ No

13. **Length of previous training in the assessment and management of depression**
    - ❑ A half day workshop
    - ❑ One day training course
    - ❑ Two day training course
    - ❑ Other
    - ❑ If other, please specify

    _____

14. **When did you undertake the most recent training in the assessment and management of depression?**
    - ◯ Within the last year
    - ◯ 1-2 years ago
    - ◯ 3-5 years ago
    - ◯ More than 5 years ago

* 15.

Tick any of the following presentations that you consider constitutes a suicidal crisis?

❑ Patients who present depressed, have a family history of suicide but no overt suicidal thoughts

❑ Patients who present depressed and have a history of self-harm

❑ Patients with suicidal thoughts and no intent to harm themselves

❑ Patients with suicidal thoughts and intent to harm themselves, but no plan

❑ Patients with suicidal thoughts, intent to harm themselves and have a plan

❑ If other, please specify

_____

16. **What do you normally do with patients who present in suicidal crisis between 9-5 Monday-Friday?**

❑ Manage the crisis myself

❑ Refer to A & E

❑ Refer to Suicide Crisis Assessment Nurse (SCAN) service

❑ Refer to Community Mental Health Team

❑ Refer for admission to inpatient service

❑ If other, please specify

_____

17. **What do you normally do with patients who present in suicidal crisis after 5pm and at weekends?**

❑ Manage the crisis myself

❑ Refer to A & E

❑ Refer to Suicide Crisis Assessment Nurse (SCAN) service

❑ Refer to Community Mental Health team

❑ Refer for admission to inpatient service

❑ If other, please specify

_____

* 18. **What services are provided for patients in suicidal crisis in your catchment area? (Tick as many as appropriate)**

❑ Suicide Crisis Assessment Nurse (SCAN)

❑ A & E Liasion Mental Health Crisis Service

❑ Mental Health Service Crisis Nurse

❑ Community Mental Health Team (Adult)

❑ Community Mental Health Team (Child and Adolescent)
❑ Primary Care Mental Health Professional
❑ Voluntary Counselling Services
❑ Other Service

19. **Approximately, how many patients would you see in suicidal crisis in a year?**
    ○ 0   ○ 1-5   ○ 6-10   ○ 11-15   ○ 16-20   ○ 21-25   ○ 26-30   ○ 31+

* 20. **Is the Suicide Crisis Assessment Nurse (SCAN) service available in your area?**
    ○ Yes ○ No

21. **Of the patients you see in suicidal crisis how many of these do you refer to the SCAN service?**

    ○ 0   ○ 1-5   ○ 6-10   ○ 11-15   ○ 16-20   ○ 21-25   ○ 26-30   ○ 31+

22. **What types of mental health problems do you normally refer to the SCAN service?**

	Always	Often	Sometimes	Rarely	Not at all
Suicidal Crisis	○	○	○	○	○
Self-harm	○	○	○	○	○
Substance Abuse	○	○	○	○	○
Depressive Episode	○	○	○	○	○
Anxiety Disorders	○	○	○	○	○
Acute Psychotic Episode	○	○	○	○	○
Chronic Psychosis	○	○	○	○	○
Manic Episode	○	○	○	○	○

23. **What types of suicidal behaviour do you refer to SCAN ?**

	Always	Often	Sometimes	Rarely	Not at all
Patients who present depressed, have a family history of suicide but no overt suicidal thoughts	○	○	○	○	○
Patients who present depressed and have a history of self-harm	○	○	○	○	○
Patients with suicidal thoughts and no intent to harm themselves	○	○	○	○	○
Patients with suicidal thoughts and intent to harm themselves, but no plan	○	○	○	○	○
Patients with suicidal thoughts, intent to harm themselves and have a plan	○	○	○	○	○

24. **On a monthly basis what is the average number of patients you refer to SCAN?**

    _____

25. **If you have a patient in a suicidal crisis who you feel requires urgent admission to the mental health service, do you refer to the SCAN service?**

    ○ Always
    ○ Often
    ○ Sometimes
    ○ Rarely

http://www.surveymethods.com/PrintSurvey_Doc.aspx?syid=206919&WhatToPrint=print   11/07/2012

○ No at all

26. **When presented with a patient in suicidal crisis please indicate the reasons that may influence you NOT to use the SCAN service**

	Always	Often	Sometimes	Rarely	Not at all
Confidence in own ability to assess client	○	○	○	○	○
Lack of availability of SCAN services at the time of the crisis intervention	○	○	○	○	○
Lack of availability of suitable venue for SCAN nurse to interview patient	○	○	○	○	○
Ready access to Mental Health services	○	○	○	○	○
SCAN delays access to Mental Health service	○	○	○	○	○
Availability of community support services	○	○	○	○	○
SCAN is more suited to clients who are not in suicidal crisis	○	○	○	○	○
Access to a crisis Mental Health nurse in A & E	○	○	○	○	○
SCAN is not an effective service	○	○	○	○	○
Patient is currently under the care of the Mental Health service	○	○	○	○	○
Unsure of referral criteria to SCAN service	○	○	○	○	○

27. **Following referral, what is the usual waiting time for a patient to be seen by SCAN ?**

○ The same day
○ The following day
○ Within 2 days
○ Within 3 days
○ Within 4 days
○ Within 5 days
○ 6 days or longer

28. **In order of preference what services would you like SCAN to provide?**

(1=most preferred service, 6= least preferred service)

Rank the following items using numbers from 1 to 6.

Triage and referral to other services	_____
Stabilise and manage crisis	_____
Brief solution focused interventions	_____
Nurse prescribing services	_____

Immediate access to
Mental Health service   _____

Expand the role to cover
all Mental Health
conditions   _____

29. **In your opinion what hours/time should the SCAN service be available?**
    ○ 9-5 weekdays
    ○ 9-5 including weekends
    ○ 24/7
    ○ If other, please specify

    _____

30. **SCAN should be based in**
    ○ Primary Community & Continuing Care services
    ○ Mental Health service
    ○ A & E Department
    ○ If other, please specify

    _____

31. **Following referral of a patient to the SCAN service, which one of the following best reflects your experience**
    ○ SCAN service follows up patient and periodically reports to GP
    ○ GP follows up patient following report from SCAN
    ○ Continuing liaison between SCAN service and GP
    ○ If other, please specify

    _____

32. **In what way has the SCAN service impacted on the outcomes for referred patients in suicidal crisis?**

	A great deal	Quite a lot	Some	Not very much	Not at all
Reduced incidence of self-harm	○	○	○	○	○
Reduced repetition rates of suicidal crisis	○	○	○	○	○
Enhanced engagement with treatment	○	○	○	○	○
Enhanced collaboration with family	○	○	○	○	○
Improved coping skills	○	○	○	○	○
Better patient satisfaction with treatment	○	○	○	○	○

33. **When comparing SCAN service to usual care please rate your level of agreement with the following statements**

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The SCAN service leads to better treatment adherence than usual care	O	O	O	O	O
Patients are more readily agreeable to being referred to SCAN as they perceive it as being outside the Mental Health service	O	O	O	O	O
I sometimes refer people to SCAN service that I would not have otherwise referred to a mental health service	O	O	O	O	O

34. **How has working with SCAN impacted on your understanding of suicidal behaviour?**

	Not at all	Not very much	Some	Quite a lot	A great deal
Knowledge of suicidal behaviour has increased	O	O	O	O	O
Skills and ability to assess suicidal risk has increased	O	O	O	O	O
Skills and ability to manage suicidal behaviour has increased	O	O	O	O	O

35. **Rank the elements you most value in the SCAN service from 1st to 6th in order of preference (1=most valued, 6= least valued) (Please use each number only once)**

Rank the following items using numbers from 1 to 6.

Ability to stabilise and manage a suicidal crisis   _____

Knowledge of support services that can be accessed (e.g. counselling, addiction services, social services, MABS)   _____

Opportunity to discuss Mental health presentations with the scan nurse   _____

Timely access to Mental Health services   _____

Provision of counselling support   _____

Links to community based non statutory resources   _____

36. **Please include any comments you would like to make about the SCAN service**

_____

_____

_____

_____

* 37. Please rate your overall satisfaction with how the SCAN service responds to your needs in managing patients in suicidal crisis

○ Extremely satisfied

○ Satisfied

○ Neutral

○ Dissatisfied

○ Extremely dissatisfied

38. **What types of suicidal behaviour do you refer to the Mental Health services?**

	Always	Often	Sometimes	Rarely	Not at all
Patients who present depressed, have a family history of suicide but no overt suicidal thoughts	○	○	○	○	○
Patients who present depressed and have a history of self-harm	○	○	○	○	○
Patients with suicidal thoughts and no intent to harm themselves	○	○	○	○	○
Patients with suicidal thoughts and intent to harm themselves, but no plan	○	○	○	○	○
Patients with suicidal thoughts, intent to harm themselves and have a plan	○	○	○	○	○

39. **On a monthly basis what is the average number of patients in suicidal crisis you refer to the Mental Health services?**

_____

40. **Following referral, what is the usual waiting time for a patient in a suicidal crisis to be seen by the Mental Health team ?**

○ The same day

○ The following day

○ Within 2 days

○ Within 3 days

○ Within 4 days

○ Within 5 days

○ 6 days or longer

41. **Is the current mental health service adequately meeting your needs in dealing with patients in suicidal crisis?**

○ Yes ○ No

Additional Comments

_____

42. **In what way has the current Mental Health service impacted on the outcomes for referred patients in suicidal crisis?**

	A great deal	Quite a lot	Some	Not very much	Not at all
Reduced incidence of self harm					

	○	○	○	○	○
Reduced repetition rates of suicidal crisis	○	○	○	○	○
Enhanced engagement with treatment	○	○	○	○	○
Enhanced collaboration with family	○	○	○	○	○
Improved coping skills	○	○	○	○	○
Better patient satisfaction with treatment	○	○	○	○	○

43. **How has working with the Mental Health service impacted on your understanding of suicidal behaviour?**

	Not at all	Not very much	Some	Quite a lot	A great deal
Knowledge of suicidal behaviour has increased	○	○	○	○	○
Skills and ability to assess suicidal risk has increased	○	○	○	○	○
Skills and ability to manage suicidal behaviour has increased	○	○	○	○	○

44. **Rank the elements in relation to suicidal crisis assessmen that you most value in the Mental Health service in order of preference from 1st to 6th. (1=most valued, 6= least valued) Please use each number only once**

Rank the following items using numbers from 1 to 6.

Ability to stabilise and manage a suicidal crisis ——————————

Knowledge of support services that can be accessed (e.g. counselling, addiction services, social services, MABS) ——————————

Opportunity to discuss Mental health presentations with the multidisciplinary team ——————————

Timely access to Mental Health services ——————————

Provision of counselling support ——————————

Links to community based non statutory resources ——————————

45. **Please rate your overall satisfaction with how the Mental Health service responds to your needs in managing patients in suicidal crisis**

○ Extremely satisfied

○ Satisfied

○ Neutral

○ Dissatisfied

○ Extremely dissatisfied

46. **Please include any additional comments you would like to make about patients in suicidal crisis accessing the Mental Health service**

_____

_____

_____

_____