This dissertation provides a collection of studies of two suicide prevention strategies that aim to improve healthcare for people at risk of suicide. The first strategy is the implementation of a national e-mental health platform offering online suicide prevention interventions that can be accessed anonymously, 24/7 and free of charge. The second strategy is implementation of evidence-based suicide prevention policies and practices in specialist mental health care.

The research presented in this thesis focuses on the process and progress of these strategies as developed and implemented by 113 Suicide Prevention. As our research shows, both strategies have led to promising improvements of healthcare suicide prevention quality in the Netherlands.

Improvement can be further accelerated by adopting a Zero Suicide ambition that helps healthcare reach a tipping point in its mindset: from resigned acceptance of suicide to active prevention of suicide. This is why 113 Suicide Prevention strives for a country where no one dies alone and in despair by suicide.
On the road to zero suicides: Implementation studies

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On the road to zero suicides: Implementation studies

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prof. dr. J.H. Smit
prof. dr. A.J.F.M. Kerkhof
prof. dr. A.T.F. Beekman
We choose to go to the moon. We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard.

J.F. Kennedy, 12 September 1962
To the loves of my life:
Nicole, Kiki, Milo, Mannes and Dette.
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Part I
General Introduction
Suicide is a global public health problem. The WHO estimates that annually over 800,000 people die by their own hand; representing more than 20 million years of healthy life lost worldwide (World Health Organization, 2014). In the Netherlands, suicide and suicide attempts ranks 11th, between dementia and breast cancer, in the top 24 disorders with the highest burden of disease expressed in disability adjusted life years (DALY’s) (Van Straten, Kerkhof, Hoeymans & Smit, 2011). Currently the suicide rate is at 11 per 100,000. In 2016 and 2017, 1,894 respectively 1,917 Dutch inhabitants died by suicide (CBS, 2017, 2018).

Suicide and suicidal behavior (including suicidal ideation and attempted suicide) have a complex etiology. Health problems, especially mental health problems (e.g. mood-, anxiety-, substance abuse- and personality disorders) are important risk factors for suicide and attempted suicide. Psychological theories, like the Integrated Motivational Volitional Model of Suicide Behavior (O’Connor & Kirtley, 2018; O’Connor & Nock, 2014) or the Interpersonal Theory of Suicide (Van Orden et al., 2010), predict suicidal behavior to occur in the context of psychological or existential entrapment. In this state of entrapment thoughts of suicide can emerge as an escape alongside cognitions about thwarted belongingness and perceived burdensomeness that lower the threshold to resist suicidal desires and intentions. This may lead to progressive thinking and acting towards death by suicide with habituation to death anxiety that further lowers this threshold. Therefore, suicidal behavior, current or past, is in itself an important risk factor for death by suicide.

1.1 Health care suicide prevention

Current suicidal behavior and psychological or existential stressors are, like mental illnesses, risk factors that can be mitigated by psychiatric or psychological care. Improving the access and quality of this care has the potential to prevent more suicides and suicide attempts for two large populations at risk of suicide. Firstly: for those who do not receive treatment or help at all. Worldwide, across cultures, many suicidal individuals are reluctant, ambivalent help seekers (Bruffaerts et al., 2011). While there are several barriers for suicidal persons to seek help, patient attitudes towards treatment appear the most important. This may well be based on patient rejection of mainstream specialist treatment within the traditional medical model (Pitman & Osborn, 2011). In the Netherlands, a country with a well-established health care system, 40% of suicide attempters do not use any form of help for psychological or substance use problems in the year preceding their suicide attempt, and 33% had never used any help for these problems in their
Chapter 1

lives (ten Have, van Dorsselaer, Tuithof & de Graaf, 2011). Providing new services that are more accessible, more engaging or acceptable may decrease suicide rates by increasing the reach of empowering information and helpful interventions.

The second risk population to profit from improved quality of care consists of suicidal persons that seek help or receive care that proves to be insufficient to prevent suicide. In the Netherlands over 36% of suicide deaths concern patients in specialist mental health care (Huisman et al., 2013). Research into treatment factors that may have contributed to the suicides of patients shows recurrent themes (Huisman et al., 2009; Gillies et al., 2015). The presence and severity of suicidal behavior is often missed because patients are not asked about it, or because it has been inadequately explored and assessed. Miscommunication of professionals with the patient, with relatives or with colleagues may lead to loss of information, misunderstandings and missed appointments resulting in discontinuity of care. This poses an important risk to patients, as many suicides occur around the transition of treatment setting or treatment provider; especially in periods after discharge from inpatient treatment. Recently Smith et al. (2015) drew attention to clinician’s dysregulation of reasoning and behavior can under pressure of time, the patient’s suffering, the threat of mistakes, and emotional reactions towards people that self-harm This contributes to inconsistent clinical management of suicidal behavior and to interactions with patients that they often perceive as insufficiently respectful, knowledgeable, caring and careful (Taylor, Hawton, Fortune, Kapur, 2009).

Recent studies in the US and UK show a relation between the quality of care and the occurrence of suicide among patients in healthcare; and suggest that this relation is moderated by factors concerning the way health care is organized. Implementing guideline practice recommendations in UK mental health care organizations was shown to result in significantly lower suicide incidence rates among patients (While et al., 2012; Kapur et al., 2016). In the US, examples of health care system-wide optimization of the care for people at risk of suicide was shown to result to significant reduction of suicide mortality within a decade (Knox, 2003). The US National Action Alliance for Suicide Prevention (Covington et al., 2011) discovered three components to be elemental to these successful approaches: 1) systematic, direct treatment of suicidal behavior (instead of: treatment of illnesses “underlying” suicidal behavior alone); 2) offered to all patients at risk via optimal care processes that are continuously improved; and 3) driven by a system-wide commitment to the aspirational goal of zero suicides among patients in mental health care treatment. These findings formed the basis of the now worldwide
Growing broader Zero Suicide movement that draws the field of suicide prevention into the realm of patient quality and safety improvement implementation.

Unfortunately, implementation of practices that are known to save many lives or reduce suffering considerably does not depend on its rationale alone. Implementation may be stalled or blocked by barriers of different kinds (Grol & Grimshaw, 2003). As history of medicine shows it took decades for doctors to accept and implement routine hand washing or the use of gas anesthesia before surgery. For contemporary health care it has been calculated that it takes on average 17 years for new evidence-based findings to reach clinical practice (Balas & Boren, 2000). In suicide prevention this state of affairs is no exception. Evidence based interventions and guidelines are not very well implemented in actual practice. Overcoming barriers requires effort; methods and strategies to promote the uptake of evidence-based interventions and improve the quality and safety of health care. Implementation science can be defined as the study of methods and strategies to promote the uptake of interventions that have proven effective into routine practice, with the aim of improving population health.

1.2 This thesis and 113 Suicide Prevention

Common thread of the studies in this thesis is formed by the health care suicide prevention strategies developed and implemented by 113 Suicide Prevention in the Netherlands between 2010 and 2017. Since 2010 this organization plays a central role in the development, implementation and monitoring of national Dutch suicide prevention policies. 113 Suicide Prevention1 (at that time called: 113Online) started as an online help platform for people at risk of suicide. As of 2014, this organization is commissioned to be the lead agency to coordinate and promote the Dutch National Suicide Prevention Strategy. This Strategy involves measures taken on national and regional levels in the social economic domain, healthcare and education. Suicide prevention guideline implementation in MHI s is among the important aims within the healthcare domain.

To position the studies presented it is important to note the contextual nature of implementation research. Implementation and quality improvement in healthcare

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1 In this book the terms “113Online” “113” and “113 Suicide Prevention” are interchangeable and denote the same organization.
can only be assessed and promoted in its context- including the culture, values and interests of parties involved.

To put the role of 113 Suicide Prevention in perspective we now give a general overview of key aspects of the context in which it functioned. Until 2010, available e-mental health interventions developed for common mental health problems were considered not suitable or too unsafe for persons with suicidal behavior in the Netherlands. In 2010, 113 was among the pioneers worldwide to offer online interventions to people with suicidal behaviors and their relatives; like telephone and chat hotlines, brief online therapies, a self-help course and a peer support forum. The 113 services were, and still are, offered anonymously, confidentially and free of charge via an online platform that enables 24/7 help seeking.

The launch of the 113 Online platform met with great initial skepticism. The public opinion asked how one could expect suicidal people to go online and talk about their feelings via a computer? And if they did so, where they “really” suicidal or just lonely attention seekers? Professionals cautioned that online therapies could never be as effective as “real”, face-to-face therapies, for lack of “genuine therapeutic” contact. Furthermore, professionals working in crisis settings noted that anonymous online contact would be unsafe because (coerced) physical safety measures are much harder if not impossible to be taken online. As a result of this presumed lack of safety it was feared that providers of e-mental health interventions would face severe sanctions in the case of the suicide of a patient that had used these services. Finally, 113 faced regulatory and financial barriers. Anonymous online interventions were and still are not covered under the national health care insurance regulations. With insurance companies not willing to compensate the costs, it was the question which party would fund the development and operation of 113.

Despite these concerns and cautions 113 was launched, mainly as a result of Parliament and the Dutch Minister of Healthcare recognizing the magnitude of the problem of suicide; and of the opportunities new technologies could offer to increase the reach of prevention and treatment of suicidal behaviors. This provided the opportunity to develop a proof of concept of the planned online services; and by studying their reach and effects to start providing answers to questions and concerns with regard to the idea that (severely) suicidal persons could profit from and were not harmed by anonymous online help services.

In 2012 the Dutch Multidisciplinary Guideline for Diagnosis and Treatment of Suicidal Behaviors (MGDTS) was published, followed by a large study into the effects
of training on its implementation within 17 specialist mental health institutions (De Beurs et al., 2013, 2016; De Beurs et al., 2015). Unfortunately, there was and still is a considerable implementation gap between the care specialist mental health institutions provide and the care the national Dutch suicide prevention guideline recommends. Proposals to bridge this gap as formulated in the National Dutch Suicide Prevention Strategy evoked mixed reactions. While endorsing the need for a coordinated, comprehensive national suicide prevention strategy, psychiatrists and MHI representatives were concerned that unjustified expectations of guideline implementation would lead society to blame MHIs for not being able to prevent suicide. Finally, the Dutch Association for Psychiatry and the lead Agency of Mental Healthcare providers (AMHAC-NL) ratified the National Suicide Prevention Strategy, with the latter noting that suicide rates are hard if not impossible to influence (Ministry of Healthcare Welfare and Sports, 2013).

Being an independent and trusted third party for both the government and the field of mental healthcare, 113 was commissioned to promote and monitor guideline implementation in MHIs. Playing this role, 113 experienced the profound influence cultural and attitudinal barriers to improve the care for suicide prevention; and to invest in it. Unlike the introduction of a completely new type of mental health care like the 113Online platform, the introduction of guidelines implies that traditional practices and ingrained routines are reconsidered and replaced with new ones. This was the challenge facing 113 Suicide Prevention when commissioned to lead the Dutch National Suicide Prevention Strategy, in particular to promote and monitor guideline implementation in specialist mental healthcare.

Recognizing the need for a combination of cultural and rational interventions to reach both hearts and minds, 113 became interested and involved in the International Zero Suicide movement. In 2014 it changed its mission from: “113 strives to prevent suicide by support suicidal people, their relatives and bereaved”, into” 113 strives for a country where no on dies alone and in despair by suicide”. As was to be expected, this mission and aspiration evoked mixed responses among mental health care professionals. Most of them endorse Zero Suicide as an ideal. However, to some of them the aspirational goal of zero suicides is unrealistic, because it contrasts too much with their experience of the loss of (many) patients to suicide. Others feared the use of a Zero Suicide ambition as a management objective that would lead to shaming, blaming and litigation. As a consequence, they feared that professionals would become distressed in working with suicidal patients, leading to worse outcomes. These objections and concerns lead to the question: is it rational to pursue zero suicides among patients in healthcare?
Chapter 1

1.3 Aims and outline of the thesis

The research in this thesis investigates the progress and process of implementation of two health care quality improvement strategies. The first strategy is the implementation of online suicide prevention interventions that can be accessed anonymously, 24x7 and free of charge via a national platform www.113.nl. The second strategy is implementation of evidence-based suicide prevention policies and practices in specialist mental health care.

Part I of this thesis focuses (Chapters 2-4) focuses on the first strategy. Chapter 2 describes the Dutch online suicide prevention platform 113 Suicide Prevention in its first three years since its launch in 2010 introducing its general background; its organization and principles; and its key services. Data are presented on the characteristics of 113 service users and their usage of different services, as well as preliminary outcomes of the crisis chat service. Chapter 3 presents a study of the reach and outcomes the 113 crisis chat service in 2012. Chat, chat visitor characteristics and changes in visitors’ emotional states were studied, applying methods and instruments that enable comparison with crisis telephone calls to U.S. 1-800-SUICIDE helpline centers. Chapter 4 offers a study of the reach, perceived benefits and potential harmful effects of users of the online peer support forum that was offered to visitors of the 113 website.

Part II investigates the second strategy. Chapter 5 offers an implementation study of changes in levels of suicide prevention guideline implementation in and practice variation between, 24 specialist Dutch mental health institutes (MHIIs) measured in the course a Suicide Prevention Educational Outreach (SP-EDO) implementation strategy that 113 co-created with participant MHIIs. Chapter 6 presents a narrative review of the Zero Suicide approach to suicide prevention in mental healthcare that embraces the aspirational goal of zero suicides among patients treated in health care systems or organizations. Zero Suicide core components and their evidence base are clarified and discussed to answer the question: is it rational to pursue zero suicides among patients in healthcare?

In Part III, Chapter 7 summarizes the main findings of the research presented in this thesis. These findings will be discussed against the background of current developments in the Netherlands and the need for a transformative improvement of health care quality in order to prevent more suicides.
References


Chapter 1


Chapter 1


General Introduction


Results and experiences of 113Online: a comprehensive Dutch online suicide prevention platform

Abstract

This chapter describes services, users, usage and first experiences of the national Dutch suicide prevention platform 113Online in its first three years since opening. 113Online is a combination of a website and a telephone helpline for suicidal persons, their relatives and bereaved next of kin. The services 113Online provided include crisis intervention via telephone and online chat; self-tests; brief online psychotherapy and online peer support and exchange. The site visit results indicate a great need for anonymous online help for persons contemplating suicide. Self-tests show that the website is visited by severely suicidal persons. Provisional crisis chat outcomes indicate a modest positive change in chat visitor mood states. 113Online seems to be a promising approach to suicide prevention. The online assistance reaches its target population and seems to fulfill needs that are not being met by regular health care services.
**Introduction**

The emergence of new information and communication technologies has led to the development of internet based “e-mental health” interventions including e-therapy, online screening, tele-consultation and online information and education services. These developments can benefit the field of suicide prevention by increasing the availability; accessibility and acceptability of care to suicidal individuals, being often emotionally vulnerable and ambivalent help seekers (McGinty, 2006; Barak, 2007; Krysinska & de Leo, 2007; Sarchiapone et al., 2009; Lester, 2008; Luxton et al., 2011).

This chapter presents the Dutch online suicide prevention platform, which provides several complementary services over the Internet. We first present the general background, introducing the potential contribution of e-mental health for suicide prevention. We then describe the organization and principles of 113Online, and the key services it provides. Third, we present data on the characteristics of 113Online service users and their usage, as well as some outcomes, using data recorded during the first three years of operation. The final section summarizes and discusses our experiences to date and research findings. Plans for future developments will be presented and a research agenda will be proposed.

**2.1 Background**

The availability, accessibility and acceptability of services are key issues in suicide prevention. A survey among 286 general practitioners in Great Britain indicates that a large majority of G's view the availability of mental health services as inadequate, sometimes to a point that they refrain from referring at all to avoid disappointment of their patients (Saini et al., 2010). Other studies have established the dissatisfaction of patients who did receive specialist mental health care (Hengeveld et al., 1988; Pirkis et al., 2001; Taylor et al., 2009). These studies report that patients often experience a lack of respect and empathy, with professionals challenging their autonomy and declining them involvement in treatment decisions. The effect of this dissatisfaction on future help seeking is illustrated by Gould et al. (2012), who found that a third of callers to US crisis hotlines report a lack of trust or negative experiences as their reason for not accessing mental health care after their call.
Recent studies (Pagura et al., 2009; Bruffaerts et al., 2011; Gould et al., 2012) demonstrate that a high proportion of suicidal individuals receive no treatment. They found this to be only partly due to financial or structural barriers, such as the availability of services. Even in the Netherlands, a country with a well established mental health system, 40% of suicide attempters do not use mental health care services in the year preceding their suicide attempt, and 33% had never used mental health services in their lives (Ten Have et al., 2011). As these studies show, suicidal individuals’ attitudes towards help and help seeking appear to be main barriers.

Pitman and Osborn (2011) argue that the apparent rejection of mainstream (specialist) services by suicidal individuals calls for investment in settings and services that are more acceptable to them and satisfy their personal needs and preferences to a greater extent. Thus, suicide prevention not only faces the challenge to increase availability of services, but also to increase their acceptability and effective use. This should involve the provision of selfcare or informal care opportunities for those who prefer to work problems out by themselves, or living in regions with limited availability of health care services.

Internet based mental health services can play a crucial role in meeting these challenges. The widespread use of the Internet in society allows for large-scale dissemination of education, self-help and therapy (McGinty et al., 2006). With large target audiences looking for useful information, empathy and validation on the internet (Baker & Fortune 2008; Harris et al., 2009), suicide prevention has an excellent opportunity to reach them with interventions and to counteract suicide propagating websites which also present themselves to suicidal internet surfers (Durkee et al., 2011; Biddle et al., 2012; Gunnell et al., 2012).

Apart from logistic and targeting advantages, the privacy, anonymity and practicality of the Internet result in greater access to services. Individuals who hesitate to seek help because of shame, the wish to stay in control, or the fear to be disappointed or rejected, may enter (as well as leave) interventions with greater ease. A single click suffices. The physical distance to an online professional, safeguards a great deal of autonomy and control that many patients find lacking or fear losing when seeking help in regular care.

Seen in this light, online services may constitute an alternative or supplement gateway to effective mental health care for suicidal people that would otherwise
not seek help; and to patients that are dissatisfied with or inhibited in discussing suicidality with their therapist in ongoing regular treatment.

Research has shown promising results of different online interventions aimed at anxiety disorders, mood disorders and substance abuse (Spek et al., 2007; Andrews et al., 2010; Cuijpers et al., 2008). In the field of suicide prevention however, there is a dearth of outcome research (Luxton et al., 2011; Pietrzak & McLaughlin, 2009). Outcome research on computerized interventions in general struggles with the resolution of methodological issues which are particularly salient to this emergent field (Postel et al., 2008; Kiluk et al., 2011). In addition, outcome research in suicide prevention is subject to strict ethical standards and faces the low base rate problem of suicide and suicidal behavior (Gunnell & Frankel, 1994; Lewis et al., 1997; Mishara & Weisstub, 2005).

2.2 Description of key services

Overview of 113Online services

113Online offers online preventive and therapeutic interventions to three target audiences: suicidal individuals, persons in their environment, and those bereaved by suicide. Most services are offered 24/7 via the website www.113online.nl and by telephone. Help seekers can remain anonymous and face no charges except for a 5 euro cents per minute telephone rate.

The 113Online services include:
- information, education and consultation
- self-assessment tests
- an online self help course
- moderated peer forums
- chat and telephone hotlines
- online solution focused brief psychotherapy by chat and e-mail

Organization and funding

In the Netherlands in the period 1990 to 2005, the comparatively modest national suicide rate of 9.7 per 100,000 per year (CBS, 2012) tended to be accepted as an unavoidable loss by policymakers and politicians. However in 2005, prompted by advocacy organizations and opinion leaders, Parliament ordered a re-evaluation of the government policy (Bool et al., 2007). This created a window of opportunity for 113Online stakeholders to propose online suicide prevention as a policy priority.
Chapter 2

(Loncke et al., 2011). With broad Parliamentary support, the Dutch Ministry of Health Care in 2008 provided a 2.2 million US dollar project grant for two years. After evaluation of the results, the project grant was transformed into a structural grant of 1 million US dollar per annum.

Guiding principles and legal aspects

In designing the services a number of guiding principles were defined. To engage the largest possible target audiences, services should be accessible with little or no requirements and with anonymity. The interventions should be evidence based, well tolerable and meeting the needs of the target audiences. All interventions and efforts should be aimed at facilitating talking about suicide, thus maximizing the opportunity to make contact with help seekers and help them survive. The Solution Focused Brief Therapy approach (SFBT; e.g. O’Connel, 2005; Bannink, 2007; Bakker & Bannink, 2008; Henden, 2008; MacDonald, 2011; Fiske, 2008). was chosen as a common therapeutic frame of reference to be used in all forms of direct work with help seekers, and in the language on the website.

Before starting the services, legal aspects had to be explored and addressed. Under Dutch law, online interventions are no different from regular interventions. The same rules and regulations apply. As in regular treatment informed consent should be acquired. Offering online interventions to suicidal individuals is permitted when it is completely clear to help seekers what to expect and what not to expect from the service provider; and when all possible measures are taken to minimize unwanted effects and to optimize outcomes. Within this framework, 113Online found no significant legal obstacles. The liability insurance cost amounts to less than 10,000 US dollars per year.

Being a new health care organization, 113Online presented itself to the Dutch Health Care Inspectorate and obtained the legal status of licensed health care institution.

One important legal issue to address in this section is the extent to which 113Online is obliged to breach confidentiality and to initiate search and rescue operations. In the Netherlands, health care professionals are obliged to take protective measures and/or breach confidentiality when there is clear and present danger. In these instances 113Online can initiate search and rescue operations only when the help seeker complies with providing the practical information needed to locate him or her. Since most help seekers want to remain anonymous, this is often impossible. In order to get around this, 113Online has been provided police with IP addresses
Results and experiences of 113Online when a person’s life is in danger. In one cases this has lead to a timely location of the client and a rescue operation.

**Practical aspects**

113Online is based in a small office in Amsterdam, the Netherlands. Services are offered via www.113online.nl by the volunteers and professional staff of the 113Online Foundation. As of March 2013, the 113Online foundation employed a professional staff of 12 fulltime equivalent employees, including 7 parttime therapists; a fulltime general manager; a fulltime webmanager; a parttime research assistant, a part time training coordinator and one parttime administrative collaborator. 113Online also employs three part time volunteer therapists, and there are on average 8 interns practicing online therapist skills under training and supervision of 113Online staff members.

During office hours two or three therapists and three interns are on call in the 113Online office. Apart from performing therapy and consultation, they constitute the second line of help in crisis resolution, backing up the volunteers on the hotlines. They are backed up by a psychiatrist who is available for therapist guidance by telephone. After office hours the professional duties are performed by members of the crisis resolution team of a large Amsterdam based mental health organization.

113Online volunteers and employees collaborate not only in real time and face-to-face but also online, using a web-based digital working environment. This allows them to work on projects, to archive and update standards, to exchange information on clients and to share ideas. The digital workspace is suitable for quality control and educational purposes. Volunteer intervision groups use this environment to upload chat logs and exchange peer feedback. Therapists use the environment to provide interns feedback, and to review uploaded chat therapy logs and therapy e-mails.

**2.3 Key services**

**Information and education**

Evidence based education and practical information is presented on the website targeted at suicidal individuals, people concerned about someone and to people bereaved by suicide. The 113Online educational information published on the site is supplemented by the possibility of consulting professionals with single ques-
Chapter 2

tions via telephone or e-mail. Additionally, site visitors can use a directory of links to reliable sources of online information, education and self help in a variety of problems areas.

The content of the educational materiel is aimed to help recognize suicidal ideation and despair, to foster hope, to enhance coping, to stimulate help seeking and to decrease isolation and taboos. The possibilities of coping and talking about suicidality and despair are stressed in order to attain the “Papageno-effect” (copycat behavior of successful coping; Niederkrotenthaler et al. (2010)), and case examples of help seeking and survival are presented.

The 113Online educational material is worded in non-dramatic, sober and sensitive language. On the website, sentences are as short as possible to accommodate people with low education or reading problems. In line with the Solution Focused approach, positive terms are used (e.g: “stay alive” in stead of “not dying”).

After a lengthy discussion 113Online chose to use the Dutch word for suicide “zelfmoord” (self murder) instead of the less current but more attenuating term “zelfdoding” (self killing) Clearly the word “Zelfmoord” has criminalizing connotations that may offend or hurt people, especially those who are bereaved. However it is the common word for suicide in the Dutch language, whereas “Zelfdoding” is a politically correct term used mainly by professionals and officials. Additionally “Zelfdoding” is rarely used as a query in internetbrowsers. The fact that several client focus groups advised to “walk the talk” of discussing suicide in a natural and straightforward manner was a decisive factor in the discussion. “If you don’t dare to call “zelfmoord” by its name, how can you expect us to feel free talking about it with you?” one focus group member put it succinctly.

Consultation

113Online offers professional advice via e-mail and telephone. This service is not aimed at acute crisis resolution or therapy, but at answering single questions. Topics include: how to find help; what to do when you are concerned someone you know may attempt suicide; what can be done about suicidal thinking and urges; how to cope with bereavement after loosing a loved one who died by suicide. E-mails are answered within 5 working days. Telephone calls are taken during dedicated office hours. 113Online therapists, backed up by experienced psychiatrists, offer the consultation.
In line with the education sections of the site, the consultation is based upon professional expertise, evidence and national guidelines. Help seekers are referred to offline and online resources including the 113Online services. In accordance with the disclaimers on the site, information about the limitations and drawbacks of online or telephone advice is communicated during the consultation process. No statements are made about formal psychiatric or somatic diagnoses; no advice is given regarding specific medications or ongoing treatments and of course medication is not prescribed.

There are no restrictions as to who can ask for consultation and what this may be about, as long as the focus is suicide prevention and the consultation does not interfere with current treatments or working alliances with the help seekers’ doctors or therapists. Questions that cross these lines are not discarded at once, but explored in order to identify needs that can be met and answers that can be given within the realm of suicide prevention and the restrictions of the service.

**Self help course**

To gain understanding of and control over suicidal ideation and rumination, help seekers can follow a six module course based on cognitive behavioral therapy (Kerkhof, van Spijker & Mokkenstorm, 2013).

**Selftests**

To obtain an instant impression of the severity of suicidal ideation, anxiety and depression, site visitors can fill out self report questionnaires. Results are reported with an automatically generated advice depending on the scores in relation to pre-determined cutoff point marking levels of severity. Adults aged 23 years and older are offered the Beck Scale for Suicidal Ideation (BSS; Beck & Steer, 1991); and the Depression and Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995). Young individuals aged under 23 are offered modified versions of the Suicidal Ideation Questionnaire-Junior (SIQ; Reynolds, 1987); and the Hospital Anxiety and Depression Scale (Zigmond & Snaitth, 1983).

**Peer support**

Service users are invited to share their experiences with 113Online on the homepage. These stories are publicly accessible, and are published to encourage site visitors to seek help. In addition, 113Online provides the opportunity to share thoughts, feelings and experiences on a moderated forum. Forum posts are monitored and moderated in order to prevent unwanted content to be published. The forum is accessible after registration and therefore not entirely public. A nickname
and a working e-mail address are the minimal requirements for registration, allowing moderators to send direct messages to forum contributors to explain why posts have been removed.

**Hotlines**

113Online offers a 24/7 available telephone hotline and 13/7 available chat hotline, operated by volunteers recruited from emotional the support services Sensoor and Ex6. Sensoor is a large organization generally that provides attention and emotional support to those who need it. It is a member of Befrienders Worldwide and the International Federation Of Telephone Emergency Services IFOTES. Ex6 is a smaller organization dedicated specifically to suicide prevention. Volunteers are largely based at their homes. Some Sensoor branches use central location from which volunteers operate the lines. The total volunteer capacity in March 2013 was 250, allowing for two to five volunteers per four hour shift.

Volunteers working for 113Online are trained by psychologists in general counseling skills, suicidology, risk assessment and application of SFBT principles. Sensoor volunteers are supported and monitored by Sensoor trainers. Using an online working environment, Ex6 volunteers are organized in intervision groups with members offering online peer support and reviews of chat logs and telephone call reports. These intervision groups are supervised by professional coaches, performing quality checks to safeguard standards of work as defined in the service manual. During calls 113Online volunteers have instant access to assistance by 113Online professionals to whom callers can be transferred seamlessly.

**Example: excerpt from a crisis chat:**

[13:26:30] anonymous: Ok, i tried to commit suicide in december and a few weeks ago

[13:26:38] anonymous: both failed

[13:26:54] anonymous: December with pills. Thought i had taken enough but no....

[13:27:12] anonymous: few weeks ago after taking a load of pills i discovered ..... i have a longing.. to live after all.

[13:27:29] anonymous: now i do nothing else but think . how to take my life fast and painless

[13:29:28] Helper: Ok, a few weeks ago after a second attempt you discovered that you had a longing to live. Now you are thinking about taking your life fast and painlessly. Do I understand
that your longing for life is still there but has gone to the background now?

[13:30:38] anonymous: yeah it is shifting ....i have two sides i know......one side is desperate an powerless & wants get rid of the situation......and a side that wants to go for help

[13:30:45] anonymous: for therapy
[13:31:04] Helper: I see. I guess it is hard for you to experience this dilemma
[13:31:40] Helper: The side that wants help has become weaker?
[13:31:43] anonymous: yeah its a tough battle

[13:32:52] anonymous: they want me to do mbt, but before i can enter it will be be march next year.
[13:33:03] anonymous: in the meantime they want me to go into hospital again
[13:34:39] Helper: It is clear to me that you have been working hard to get a treatment that works well for you! I can imagine it is frustrating that you didn’t get yet what you hoped for. Is that right?

[13:35:16] anonymous: That’s right. bit by bit i lose hope. Hope to get better. Hope to get the right kind of help

Psychotherapy

As a follow up to crisis intervention or self assessment, or after application via the website 113Online offers suicidal clients solution focused brief therapy (SFBT). Clients can use chat or e-mail as a channel for therapeutic communication. Chat-therapy consists of a series of online sessions in which the patient therapist dialogue is synchronous: they are connected online at the same time. This means that they have to make scheduled appointments. E-mail therapy is asynchronous: client and therapist exchange messages, typically not responding instantly but within days.

2.4 Results and experiences

In this section experiences and results will be reported on the usage, users and in the case of crisis chat the outcomes of key services.
Chapter 2

Site visit: reach

Site visit data were generated using Google Analytics. Table 1 shows general site visit statistics of the period September 5, 2009 - September 5, 2012. In this period the site was visited 460,884 times by 236,153 unique visitors. Over half of the visitors is a returning visitor. The average number of page views per visit is 6.2. The average visit duration is almost 4 minutes per visit. Extrapolation of 113online visit statistics to the USA (population 313 million; internet penetration 78.3% of households (Internet World Statistics, 2012) leads to an expected 7,000 visits per day in the USA.

Table 1: Site usage statistics

<table>
<thead>
<tr>
<th>Site</th>
<th>Average per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site visits</td>
<td>420</td>
</tr>
<tr>
<td>Unique visitors</td>
<td>215</td>
</tr>
<tr>
<td>Pageviews</td>
<td>6.2</td>
</tr>
<tr>
<td>Visit Duration</td>
<td>00:03:57</td>
</tr>
</tbody>
</table>

Site visitors: target audiences

Google Analytics page view statistics can be used to estimate the differential viewing of landing pages by the different target audiences. The period 1 sample (N=117,160 page views) was taken in the period from October 7 2009 to June 30 2011 with a cut-off dividing young and older visitors at age 22. The period 2 sample (N=78,404 page views) was taken in the period from July 1 2011 to September 7 2012 with a cut-off dividing young and older visitors at age 16.

Table 2: Pageview percentage per target audience

<table>
<thead>
<tr>
<th>Page view Period 1 N=117,160</th>
<th>Young &lt;23</th>
<th>Older &gt;22</th>
<th>Young &amp; Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am suicidal</td>
<td>20.1%</td>
<td>34.0%</td>
<td>54.10%</td>
</tr>
<tr>
<td>I am concerned</td>
<td>6.9%</td>
<td>12.2%</td>
<td>19.10%</td>
</tr>
<tr>
<td>I am bereaved</td>
<td>2.8%</td>
<td>8.5%</td>
<td>11.30%</td>
</tr>
<tr>
<td>In want information</td>
<td>4.8%</td>
<td>10.7%</td>
<td>15.50%</td>
</tr>
<tr>
<td>Total</td>
<td>34.60%</td>
<td>65.40%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page views Period 2 N=78,408</th>
<th>Young &lt;17</th>
<th>Older &gt;16</th>
<th>Young &amp; Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am suicidal</td>
<td>14.5%</td>
<td>39.0%</td>
<td>53.50%</td>
</tr>
<tr>
<td>I am concerned</td>
<td>5.9%</td>
<td>15.5%</td>
<td>21.40%</td>
</tr>
<tr>
<td>I am bereaved</td>
<td>2.6%</td>
<td>7.4%</td>
<td>10.00%</td>
</tr>
<tr>
<td>In want information</td>
<td>6.6%</td>
<td>8.5%</td>
<td>15.10%</td>
</tr>
<tr>
<td>Total</td>
<td>29.6%</td>
<td>70.4%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
These findings defy a common assumption that 113Online encounters regularly, that its services are used predominantly by the young. But it is still impressive to see that one third of all views to the landing pages apparently is made by children 16 years of age or younger.

Table 3: Page view percentage of young target audiences

<table>
<thead>
<tr>
<th>Page</th>
<th>Pageviews Period 1</th>
<th>% &lt;23</th>
<th>Pageviews Period 2</th>
<th>% &lt;17</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am suicidal</td>
<td>63,300</td>
<td>20.1%</td>
<td>41,927</td>
<td>14.5%</td>
</tr>
<tr>
<td>I am concerned</td>
<td>22,440</td>
<td>6.9%</td>
<td>16,791</td>
<td>5.9%</td>
</tr>
<tr>
<td>I am bereaved</td>
<td>13,279</td>
<td>2.8%</td>
<td>7,842</td>
<td>2.6%</td>
</tr>
<tr>
<td>I want information</td>
<td>18,141</td>
<td>4.8%</td>
<td>11,848</td>
<td>6.6%</td>
</tr>
<tr>
<td>Total</td>
<td>117,160</td>
<td>34.6%</td>
<td>78,408</td>
<td>29.6%</td>
</tr>
</tbody>
</table>

Site visitor patterns: “viewers”, “clients” and “habitual users”

Site visit frequencies indicate visitor website usage patterns. According to their pattern three types of site visitors may be distinguished: “viewers”, “clients” and “habitual users”. “Viewers” are visitors that leave the site after taking a peek into “the shop”. “Clients” are visitors who use the services of 113Online in a dedicated manner, but no longer than needed. “Habitual users” are visitors that are seemingly insatiable in using the site, without making progress instigating a lower need of services offered. They visit the site every day even more times a day, for prolonged periods.

Table 4 shows the site visit frequency distribution of visitors in the period September 5 2009 to September 5 2012 as measured by Google Analytics. The largest proportion, almost 60% of visits, is made by “viewers”. After initial one to three visits, a significant proportion of visitors starts using the site more regularly. Almost 22% of site visits can be ascribed to regular use, with 4-50 site visits in 3 years. Among these visitors, most real “clients” can be expected; visitors that use the help offered effectively. At the current rate per day of 420 visits made by 215 unique visitors, this means that between 45 and 50 unique “clients” per day make effective use of 113Online services.

Almost 11% of visits can be ascribed to intensive use, with over 50 visits in 3 years time. Among these visitors there will be a population of “habitual users” with suicidal behaviors and interests defining an identity or a way of life. It is questionable to what extent 113Online services are helpful to them. The low access and anonymous services may be even harmful in sustaining behaviors that 113Online is trying to prevent. This warrants reflection on ways to seduce “habitual users” to
become “clients”. Possibly, a more assertive stance, for instance by active therapists’ participation in forum discussions, may be a way to prevent the formation of an online suicidal identity among frequent users.

Table 4: Frequency of visits by unique visitors

<table>
<thead>
<tr>
<th>Number of Visits</th>
<th>Visitors</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>236,448</td>
<td>51.3</td>
</tr>
<tr>
<td>2</td>
<td>40,611</td>
<td>8.8</td>
</tr>
<tr>
<td>3</td>
<td>13,709</td>
<td>4.1</td>
</tr>
<tr>
<td>4 to 8</td>
<td>37,487</td>
<td>8.1</td>
</tr>
<tr>
<td>9 to 14</td>
<td>19,928</td>
<td>4.3</td>
</tr>
<tr>
<td>15-25</td>
<td>20,292</td>
<td>4.4</td>
</tr>
<tr>
<td>26-50</td>
<td>23,475</td>
<td>5.1</td>
</tr>
<tr>
<td>51-100</td>
<td>21,194</td>
<td>4.6</td>
</tr>
<tr>
<td>101-200</td>
<td>17,160</td>
<td>3.7</td>
</tr>
<tr>
<td>201+</td>
<td>25,580</td>
<td>5.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>460,884</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Types of users: “personae”

As 113Online service users are anonymous, it is hard to define user characteristics by measurement. However, based on their experiences with help seekers first three years, 113Online professionals have been able to establish typical profiles, or “personae”, of help seekers in terms of acuity, help seeking behavior, needs and preferences.

In the target population of suicidal individuals, three prototypical personae were identified: Anne, Rick and Nina.

Anne is a 36 year old depressed and acutely suicidal housewife, mother of two kids, husband often away from home. She is an introvert perfectionist, trying to fight her despair alone, not showing her feelings to others. Under a calm surface her feelings are a like a rollercoaster. She has strong fantasies about taking her life to lessen the burden on others, sometimes including taking the lives of her children. She fears rejection and criticism, and is allergic to feel more obligations. She needs validation, reassurance, advice and support. She makes an excellent candidate for therapy.

Rick is a 20 year old adolescent, recently abandoned by his girlfriend. She found him to be “too difficult”. He is the youngest child of his parents, and still lives at home. He is an average type of guy, a little bland even, not sharing his deeper feelings with anyone. He is a thinker, wanting to analyze and understand everything.
Sometimes he thinks himself to be a bit too autistic or intelligent for this world. He has exorbitantly high expectations of himself, but he is constantly ambivalent and unable to make decisions about school. He has failed his final undergraduate exams, last year and has taken a “gap” year without knowing what to do with his time. He feels empty, a magnificent failure, an unnecessary organism on the face of the earth. He is ruminating about taking his life constantly in the past three weeks. Rick is a visitor of the 113Online site, contemplating whether he should send an application for therapy or the self help course.

Nina is a 16 year old sexually abused girl who self-harms frequently. She is, and has been, in various forms of treatment since her father left the family when she was 12. She has been diagnosed as having a borderline personality disorder and a post traumatic stress disorder. She wets her bed regularly. At school she has been bullied because allegedly she smelled. In reaction, she has started to dress in “emo-gothic” style, wearing piercings and tattoos. She needs to talk, she wants to be taken very seriously and loses her temper easily, running away and making suicidal gestures. The most serious suicide attempt she made was by ingesting a television cable, hoping to perforate her intestines. She want things to change, and sees no reason to make a change herself. She needs a lot of attention, it is rarely ever enough. Nina is a frequent user of the 113Online forum and of the crisis chat hotline.

These “personae” were used to target and market services on the website to individuals that can profit most from the care given. Having to optimize the use of a small capacity, choices have to be made which services to present in which manner, to whom preferably. The “Nina” type of visitor is the most frequent and intensive user of the 113Online services. However due to her treatment history, her externalizing attitude, and the fact that visiting 113Online is only one part of her “suicidal lifestyle”, persons like Nina don’t profit as much from the 113Online services as a “Anne” type of help seeker.

Also, reviewing “personae” in preparation of the website redesign described above, it became clear that one “persona” was missing: a middle aged, recently divorced, lonely, depressed and irritated male called “Joe”. He has serious plans to commit suicide but also ambivalence about this because of his children and the hope things might work out with his ex-wife after all. He is disappointed by his general practitioner who did not ask about suicidality and proposed an antidepressant. Joe wants to shout and talk, but is afraid to cry. Writing about his sorrow and despair with someone on his side would be very helpful, making him a good candidate for e-mail therapy.
To make the site more appealing to “Joe” and “Anne” types of visitors (and less to the “Nina” type) their “personae” were translated into predicted site use preferences and behaviors. This resulted in a website redesign, with a new logo, new pictures, and a new user interface targeted to seduce more “Joe” and “Anne” type visitors to enter therapy while attracting “Rick” types to gradually use more self help and perhaps later engage in more direct forms of communication with 113Online. At present there are no robust statistics to show the new website performance. A first impression is that the new, simplified design apparently seduces more visitors to become “clients”, but that there is still work to motivate “habitual users” to become “clients” and use the opportunities to find new ways to cope in stead of fostering old ones.

2.5 Self Test results

Adults

Suicidality

Adult site visitors were offered the 21 item BSS (Beck & Steer, 1991) as a suicidality self test. In 2010 and 2011 7,381 visitors completed the BSS. This means on average per day the test is taken by 10 adults. This group consisted of 3011 males (41%) and 4,338 females (59%), with a mean age of 37. Of the respondents 57% had never attempted suicide, 22% had attempted suicide once and 21% had attempted suicide twice or more.

Mean score was 19.8 (SD=9.1), however, it was remarkable that a large proportion of persons either had the lowest score (0) or the highest (38), probably reflecting response set. When corrected for this phenomena, the mean score was 20.8 (SD=7.7), resulting in a normal distribution of scores.

Based on the total score, the following automatically generated feedback was provided:

- 533 persons (7%) scored 0-1 (“not suicidal”)
- 129 persons (2%) scored 2-3 (“mildly suicidal”)
- 2,900 persons (39%) scored between 4-20 (“suicidal”) and were advised to seek help
- 3,819 persons (52%) scored between 21-38 (“severely suicidal”) and were advised to seek help immediately
Results and experiences of 113Online

**Depression and Anxiety**
Adult site visitors were offered the 7 item DASS-21 as a self test for anxiety and depression. 6050 persons completed the Depression and Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995) in 2010 and 2011, f 2,198 males (36%) and 3,791 females (63%), with a mean age of 37. The mean score on the anxiety subscale was 19.7 (SD=10.5 and 26.7 on the depression subscale (SD=10.8). Scores on the anxiety subscale of 10 and up and 14 and up on the depression subscale indicated pathology.

Based on the scores on the anxiety and depression subscales, the following automatically generated feedback was provided:
- 640 persons (11%) scored “relaxed”
- 159 persons (3%) scored “anxious”
- 510 persons (8%) scored “depressed”
- 4,741 persons (78%) scored “anxious and depressed”

**Youth**

**Suicidality**
Young site visitors were offered a modified version of the 15 item SIQ-Junior (Reynolds & Mazza, 1999). The original SIQ-Junior evaluates the severity and frequency of suicidal ideation amongst middle school students. On average 6 young visitors complete this test every day. In 2010 and 2011, 4,521 young persons completed the suicidal ideation test, 1,416 boys (31%) and 3,051 girls (68%), with a mean age of 18 years. 43% reported one or more suicide attempts. Based on the total score, the following automated feedback was given:
- 565 persons (13%) probably were not suicidal
- 229 persons (5%) were mildly suicidal
- 328 persons (7%) were suicidal and were advised to seek help
- 3,399 persons (75%) were severely suicidal and were advised to seek help immediately

**Anxiety and depression**
Young site visitors were offered the 14 item Hospital Anxiety and Depression Scale (HADS, Zigmond & Snaith, 1983) as a self test for anxiety and depression. 4,312 young persons completed the HADS, 1,213 boys (28%) and 3,056 girls (71%) with a mean age of 18. The mean score on the anxiety subscale was 12.4 (SD=2.7) and 11.0 (SD=5.4) on the depression subscale. Based on the total scores, the following automated feedback was given:
• 539 persons (12%) were “relaxed”
• 646 persons (15%) were “anxious”
• 208 persons (5%) were “depressed”
• 2,919 persons (68 %) were “anxious and depressed”

**Hotline use**

The usage of chat and telephone hotlines was retrieved from the website chat engine and telephone system database from January 1 2012 to August 31 2012. In this period 113Online volunteers answered on average 34 acute chat calls in 13 hours per day and 16 telephone calls in 24 hours per day. The number of answered calls fluctuated with volunteer availability. Demand surpasses capacity; the demand for chat was on estimate two or three times greater than for telephone.

**Chat hotline: user characteristics and outcomes**

To perform a preliminary study of the characteristics of chat hotline users and outcomes a content analysis was performed from June 1 2010 to March 1 2011 using the logs of 4,082 answered crisis chats with duration of longer than 7 minutes. A random sample (n=396) of chat call logs was drawn and analyzed. Each sampled chat log was reviewed by two members of a group of 18 trained and supervised master psychology students. Measures were: chat duration; apparent age and gender of caller; apparent presence of psychiatric problems and current psychiatric treatment status; apparent (dis)satisfaction with the helper.

The method developed by Mishara et al. (2007a, 2007b) in the silent monitoring study of US 1-800-Suicide was used to assess the direction of change during a chat. The content of the first and last seven minutes of each chat call was scored according to a set of cognitive and emotional dimensions. One dimension was added: the degree to which the caller stated to be able to sustain his or her own thoughts.

The average chat duration was 61 min (SD=39). 48% of chat callers could be identified as female, 15% as male, and in 37% of callers, gender could not be determined. The average age of callers mentioning their age (n=110) is 25.6. The oldest caller was 56, the youngest 12 years old. More than half of the callers was aged younger than 35 years. 46% of callers reported to be in some form of mental health treatment. In 41% of chat calls psychiatric symptoms and treatment were the main topics. Most callers were satisfied with the help: 63% of callers thanked the helper spontaneously, 15% of callers were dissatisfied.
Results and experiences of 113Online

Results of the outcome analysis are listed in table 5. As a comparison results earlier published by Mishara et al. (2007a) were listed alongside the results of the current investigation.

<table>
<thead>
<tr>
<th></th>
<th>1-800: n=1,431 tel.calls</th>
<th>113: n=396 chats</th>
<th>1-800</th>
<th>113</th>
<th>1-800</th>
<th>113</th>
<th>1-800</th>
<th>113</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Worse</td>
<td>No change</td>
<td>Better</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apprehensive/ Confident</td>
<td>11%</td>
<td>49%</td>
<td>52%</td>
<td>38%</td>
<td>43%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sad / Happy</td>
<td>9%</td>
<td>67%</td>
<td>51%</td>
<td>22%</td>
<td>44%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helpless / Resourcefull</td>
<td>11%</td>
<td>41%</td>
<td>44%</td>
<td>49%</td>
<td>41%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hopeless / Hopefull</td>
<td>10%</td>
<td>36%</td>
<td>54%</td>
<td>52%</td>
<td>39%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confused/Decided</td>
<td>10%</td>
<td>77%</td>
<td>55%</td>
<td>16%</td>
<td>38%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressive mood</td>
<td>7%</td>
<td>8%</td>
<td>74%</td>
<td>56%</td>
<td>36%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desperate</td>
<td>6%</td>
<td>7%</td>
<td>84%</td>
<td>69%</td>
<td>14%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustain thoughts</td>
<td>8%</td>
<td>56%</td>
<td>37%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicide ambivalence (n=121)</td>
<td>2%</td>
<td>8%</td>
<td>84%</td>
<td>69%</td>
<td>14%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Here we see that the outcomes of volunteer operated 113Online chat hotlines and 1-800 telephone hotlines look alike. Both have a net positive effect with caller emotional states not changing during the call in about half of the calls. At the end of the call 113Online callers seem to be a little bit happier and less depressed than 1-800 callers. On the other hand they seem to be less resourceful than 1-800 callers, 15% feeling more helpless at the end of the call. A remarkable finding is that in only 121 chat logs (31%) a statement could be made about suicide ambivalence at the end of the call. This has resulted in adaptation of training and standards of volunteers, guiding them to ask about suicide ambivalence at the end of the call.

**Railway related chat content**

In 2011 the Dutch railway infrastructure company ProRail sought cooperation with 113Online. As a pilot, signposts reading “I Listen” referring to the availability of 113Online hotlines were erected along the railways on 9 “hotspot” locations. This was implemented during September 2011.

To assess the presence of railway related content, and the impact of the “I listen” signposts, chat logs were screened using the Microsoft Word search functionality. Search terms were: “rails”, “railways”, “train driver”, “train”, “station”, “platform”, “ProRail“, ”National Railways”, “train steward”. Categories used were: the apparent distance of the caller in place and time to the railways at time of calling;
apparent suicidal urges or plans involving the railways; attitudes toward the use of the railways as a suicide method.

![Railway Signpost: “I Listen”](image)

Chat logs were sampled in the period October 1 2011 to December 31 2011: 2,853 chats by on estimate 1,150 unique callers. In 260 chats (9.1%) railway suicide related content was present. In 16 cases this related to someone else. Results are listed in table 6.

**Table 6:** Caller situations and attitudes in chats, containing railway related content

<table>
<thead>
<tr>
<th>Situation</th>
<th>N</th>
<th>% of 260</th>
</tr>
</thead>
<tbody>
<tr>
<td>On the railway now</td>
<td>10</td>
<td>3.8%</td>
</tr>
<tr>
<td>Today-yesterday</td>
<td>19</td>
<td>7.3%</td>
</tr>
<tr>
<td>This week</td>
<td>10</td>
<td>3.8%</td>
</tr>
<tr>
<td>Ever</td>
<td>27</td>
<td>10.3%</td>
</tr>
<tr>
<td>Urge or a plan now</td>
<td>64</td>
<td>24.6%</td>
</tr>
<tr>
<td>Decided against rail suicide</td>
<td>32</td>
<td>12.3%</td>
</tr>
<tr>
<td>Ambivalent on rail suicide</td>
<td>23</td>
<td>8.8%</td>
</tr>
</tbody>
</table>

In 10 cases, the caller indicated to be on or very close to the railways at the time of calling. This number is surprisingly high and has to be interpreted with caution. Technically, it is possible for users of modern smart phones to have a mobile chat, but it is also possible that these claims to be on the track might have been part
of an urgent cry for help. 12.3 percent (n=45) indicated that they reject railway suicide, mentioning objections to this method such as the consequences for the train driver. Eighty-eight percent (n=23) indicated that they were ambivalent about railway suicide as a method.

A very positive finding is that in three months time, and with sign posts at only hotspot locations, there were 3 direct and positive references to the “I Listen” signs, indicating that the caller had seen the signpost and aborted (preparations for) a suicide attempt. These findings have prompted erecting signposts to all hotspots in the Dutch railway network.

**Experiences with online psychotherapy**

The client demand for chat therapy is two to three times the demand for e-mail therapy, but the issues in chat and e-mail therapy are generally the same. The presenting problem of suicidality is often accompanied by a history of depression, anxiety, substance abuse, interpersonal conflict, loneliness and emptiness, shame and humiliation. An estimated 40% receive mental health treatment elsewhere, and has sought help as a last resort or feeling needs that seem not to be met by there “regular” therapist. These patients often indicate having trouble talking about suicidality, in some cases because their therapist has allegedly defined suicide as a “non-issue”. In these instances 113Online aims at diminishing the presenting problem of suicidality, as well as developing ways the patient might reconnect with the therapist again about despair and self-harming thoughts.

113Online therapists view the outcomes of treatment as generally positive. Their overall impression is that the online therapy is at least stabilizing suicidal crises, allowing for ventilation of emotions and promoting resilience through the identification and implementation of adaptive coping strategies. The solution focused approach suits well to promote the sense of mastery and to reduce demoralization, while the patient is not growing dependent on therapists’ views and advice. At termination of the contact suicidality may still be present, but the patient knows how to cope with it (and with the underlying problems) better. Often they feel more free to seek help or support in their environment or in professional care. Due to the validation of pain and problems, as well as the compliments made for coping efforts and resilience, for many patients therapy is often a corrective emotional experience. As a result, the common problems of self-hate and low self esteem are often decreased, leveling the field for self-protective behaviors and the adoption of safety plans.
Clients are offered up to eight e-mail therapy exchanges or chats sessions. A substantial number of patients disengage before any result can be achieved, sometimes to present themselves again after prolonged periods of “radio silence” during which their therapist sends invitations to reconnect. The ambivalence of patients in help seeking does not only show in disengagement, but also in declining to be referred to offline forms of treatment at termination of the online therapy. In three years only 35 patients wanted to be referred to therapy following 113Online therapy. To many patients, referral to regular care seems to evoke anxiety about losing autonomy and a potential disappointment. This finding has led to the adoption of a somewhat more supportive and directive stance, addressing these anxieties and motivating patients to seek help in regular care early in therapy.

In contrast with commonly heard professional opinions, but in line with research (Knaevelsrud & Maercker, 2006; Sucala et al., 2012). 113Online therapists find the lack of direct face-to-face contact not to interfere with the establishment of a meaningful therapeutic relationship. Perhaps on the contrary, the lack of direct face-to-face contact may be an advantage. Due to the online disinhibition effect (Suler, 2004) people may share more of their personal feelings online than they would in face to face contact. Working online, therapists manifest themselves through written words only, restricting their display of competence and authority to the essence of their work: active listening and the delivering the treatment. Knowing that the best thing they can do is perform therapy and use the therapeutic alliance to persuade people to take safety measures, it is easier to remain in a calm therapeutic stance even when the patient is very suicidal. This observation contradicts Lester’s (2008) suggestion that therapists working with suicidal individuals online may become too anxious to be effective.

**Forum**

Forum use data are generated by Google Analytics and were sampled from January 14 2010 to September 14 2012. In this period a total of 99,375 messages on 2,326 topics were posted- an average of 102.5 new posts and 2.4 new topics a day. The average duration of forum visits was 22 minutes, and the average number of posts read by forum visitors was 28. Because of the activity of spam bots and of visitors landing on the forum index page without entering the forum, the numbers of visits (191,613) and unique visitors (3,659) in this period should be treated with caution. It is estimated that in any three month period there are about 400 unique individuals visiting the forum regularly, of which 190 is a “seeder” and having posted more than one message. About 210 users are “leechers”;
reading but not
posting messages. An estimated 120 unique visitors can be seen as intensive forum users, visiting the site every day.

Suicidal ideation was expressed in 15% of posts, suicidal plans in 6%. Initiators expressed suicidal thoughts and plans significantly more frequent than commenters. Also they displayed a negative or neutral mood more significantly more frequent. Initiator content was dominated by negative feelings (81% of their posts), and psychological complaints about (and problems with) mental health services (33%).

Main content categories were: empathy and support (40%) and self disclosure (39%). Advice was given in 170 of posts, mainly by commenters. In 58% of advice posts, the initiator did not respond; in 18% the response indicated that the initiator found the advice to be not helpful; in 25% the initiator indicated the advice to be helpful.

The overall impression is that the forum allows for venting emotions and sharing problems to acquire peer support, advice and validation. It is unclear to what extent this influences suicidal behavior or adaptive coping. However 25% of the peer advice given is well received and regarded as helpful. It is striking how many initiators complain about mental health services.

Moderating the forum has turned out to be quite demanding. It requires a continuous monitoring of new posts, which means a lot of reading. In addition, corresponding on moderator decisions with forum users is often complicated. Forum users regard the forum as “their” territory, their posts as their possession, and monitoring as an infringement on their freedom of expression. More than once discussions with single users on monitor decisions spilled over to the forum itself, kindling a negative mood among forum users.

These observations have lead to the question to what extent 113Online professionals should participate in the forum, directly influencing discussions and responding to forum users. This would change the character of the forum from a peer support environment to a group therapy type of environment. This is a still ongoing discussion.

Adverse events: suicides
In the past three years three suicides of 113Online help seekers occurred. It is possible that more suicides have occurred that were not reported to us. In all
cases the help seeker turned out to be female and in treatment in regular mental health care as well. One suicide was a forum user, for whom an obituary was posted on the forum. One suicide was a woman just starting 113Online e-mail therapy and one a woman who had received six e-mail therapy exchanges. In both cases their family had searched the computer of the deceased and found references to visits of the 113Online website in the internet search history. They contacted 113Online to inform the organization about the suicide and shared their appreciation for our work.

Psychological autopsy analysis of the suicides revealed that the deceased help seekers had been contemplating suicide for a long time. There were no reasons to assume that the quality of care provided by 113Online had been insufficient. 113Online reported the suicides to the national Dutch Health Care Inspectorate, which accepted these without further inquiry or comments.

2.6 Discussion and future directions

Reach and access
The analysis of page views to the landing pages indicates that 113Online reaches the target audiences (suicidal individuals, concerned, bereaved). According to the self-test outcomes site visitors suffer moderate to (sometimes extremely) severe suicidal ideation, anxiety and depression. This means that 113Online reaches a significantly large population with severe, clinical levels of psychopathology.

Acceptability
An estimated 60% of 113Online help seekers appear not to be in regular care while suffering severe mental health problems and suicidality. These help seekers view 113Online as an acceptable alternative to regular, face-to-face health care. Their concern that seeking help may complicate things and add to the pain is often encountered. Patients often fear restrictive measures, criticism, naive optimism and coercion to keep on living, being imposed on them as a consequence of seeking help. As 113Online workers have learned from patients: to them the perspective of suicide may seem safer than the perspective of being helped. Their definition of safety is being free from the (fear of) pain. This is not necessarily what helpers want them to do: stay alive.

These observations explain why 113Online may reach people who have not been reached by regular care services. Online, there is more autonomy, more control
and less shame. Therefore, many patients feel safer and more at ease seeking help online than face to face. Together with the practicality of the internet, its ubiquitous presence and geographical independence, this lowers the barriers to seek help. In addition, the solution focused approach of 113Online amplifies engagement of reluctant help seekers that want to stay in control but need validation and a way to find alternative solutions they can apply. In this manner 113Online provides a supplementary health care environment for people who would otherwise shy away from help.

As observed in the content analysis of forum and crisis chats, help seekers that do receive regular treatment often express dissatisfaction with their treatment or their therapist. This can be interpreted as a sign of ineffectiveness of treatment in regular care, leaving the patient in despair about agonizing (often chronic) symptoms not responding to treatment. It may also be a sign of dissatisfaction with therapists’ handling of suicidal thoughts and behaviors, e.g. their ability to validate and explore suicidality in a professional and therapeutic way. This may be true as many clinicians recognize a lack of training and a degree of tension working with suicidal patients (Aish e.a., 2000; Wasserman, 2001; Scheerders, 2009). Another plausible interpretation is that the dissatisfaction constitutes a reaction to limit setting or neglecting self-harm habits as is practiced in the treatment of borderline patients. Finally it is possible that some suicidal patients have a tendency to be negative with any experience, perhaps as a result of their depression, and therefore are negative about health care as well. Probably in each case there is an individual mix of these reasons not to be satisfied with treatment in regular care. The overall impression is that the involvement of 113Online with a patient in ongoing offline treatment does not cause undesired developments or outcomes to occur. In many cases it has led to greater satisfaction with regular treatment.

**Effectiveness**

The main question still remains unanswered: is 113Online effective in preventing suicide? The experiences and preliminary results presented are promising. Crisis chats appear to have a positive effect on one third of callers, while half of them are unaffected but not worsened. Anecdotal therapist reports indicate that help seekers profit from brief online therapy and professional online crisis interventions. There are very impressive findings that erecting signposts along railways has resulted in abortion of intended suicide attempts and the initiation of help seeking. However these promising findings have to be confirmed by more research. Different research approaches can be taken. Conducting a descriptive and naturalistic study using systematically recorded outcome measures or other
ratings of change will give a more objective description of the experiences and observations presented in this chapter. The best way to identify the effect of treatment is performing a randomized controlled trial. At present, preparations are being made to perform an experimental study of the effect of 113Online solution focused brief therapy compared to treatment as usual.

**Conclusion**

113Online demonstrates the feasibility, acceptability and accessibility of a wide range of online preventive and therapeutic interventions offered to a population of (often severely) suicidal individuals. 113Online provides an alternative gateway to care for suicidal individuals that would otherwise shy away from help in regular offline care. It provides a temporary supplement for patients with needs unmet in ongoing regular treatment, helping them to deal with this with their offline therapist. Online intervention permits the performance of content analyses on the communication of suicidal individuals, providing a unique insight into relevant aspects of suicidal behavior and help seeking. The positive impression of the effectiveness of 113Online in preventing suicide and in promoting resilience and coping need to be confirmed by future research.
References


Chapter 2


Chapter 2


Evaluation of the 113Online suicide prevention crisis chat service: outcomes and helper behaviors
A comparison to telephone hotlines

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Abstract

Recognizing the importance of digital communication, major suicide prevention helplines have started offering crisis intervention by chat. To date there is little evidence supporting the effectiveness of crisis chat services. To evaluate the reach and outcomes of the 113Online volunteer-operated crisis chat service, 526 crisis chat logs were studied, replicating the use of measures that were developed to study telephone crisis calls. Reaching a relatively young population of predominantly females with severe suicidality and (mental) health problems, chat outcomes for this group were found to be comparable to those found for crisis calls to U.S. Lifeline Centers in 2003-2004, with similar but not identical associations with specific helpers' styles and attitudes. Our findings support a positive effect of the 113Online chat service, to be enhanced by practice standards addressing an apparent lack of focus on the central issue of suicidality during chats, as well as by the development of best practices specific for online crisis intervention.
Evaluation of the 113Online suicide prevention crisis chat service

**Introduction**

Crisis telephone helplines, or “hotlines”, are a valuable resource in community suicide prevention (WHO, 2014) with a growing body of evidence consistently showing that helplines reduce distress and suicidality in many callers (Mishara et al., 2007b; Gould, Kalafat, Munfakh & Kleinman, 2007; Gould & Kalafat, 2009; Coveney, Pollock, Armstrong & Moore, 2012; Gould, Jimmie, Munfakh, Kleinman & Lake, 2012; Lester, 2012; Gould, Cross, Pisani, Munfakh & Kleinman, 2013). Recognizing the importance of digital communication, major crisis helpline organizations began to offer online help services via chat (instant messaging) and e-mail (Murphy, 2013, Drexler, 2013, Mishara & Côté, 2013). Since the rollout of these emerging online services preceded research, the need for evaluation of processes and outcomes is of great importance (Luxton, June & Kinn, 2011; Mishara & Côté, 2013; Christensen, Batterham & O’Dea, 2014).

Since its opening in 2009, the Dutch suicide prevention organization 113Online provides several online services to persons in suicidal crisis, ranging from volunteer operated helplines, to an online self-help course (van Spijker, van Straten & Kerkhof, 2014), self-assessment tests, and brief online psychotherapy (Mokkenstorm, Huisman, Kerkhof & Smit, 2013). These services can be used by 113Online visitors anonymously and free of charge.

To evaluate the 113Online crisis chat service, we applied the methods and measures used in the Silent Monitoring Study of Telephone helplines (SMST, Mishara et al., 2007a, Mishara et al., 2007b). This approach was chosen because it does not interfere with active 113Online helpline functioning, and ensures a naturalistic observation of helpers’ and chat visitors’ behaviors. In addition, replication of the use of SMST instruments allows for a direct comparison of the crisis chat service with outcomes of crisis telephone helpline services observed in 2003 and 2004. In this period Mishara et al. monitored 1,431 crisis calls, including 503 suicidal crisis calls, to 14 centers of the U.S. National Lifeline Centers (which at that time were referred to as U.S. 1-800-SUICIDE Network Centers Lifeline Network Centers). Through silent listening, Mishara et al. rated visitors’ emotional states and suicidal ambivalence in the first and last two minutes of calls; the Crisis Call Outcome Rating Scale outcomes (CCORS, Bonneson & Hartsough, 1987) at the end of calls; and scored helpers’ behaviors and attitudes throughout the call. Overall, Mishara et al. (2007b) observed a modest positive effect of telephone crisis calls, with many variables not changing significantly from the beginning to the end of the call. When change did occur, it was much more likely to be in the direction of improve-
ment, with deterioration sometimes occurring. Mishara et al. (2007a) described four helper styles based on factor-analysis of helper behaviors observed during hotline calls: i) Supportive Approach and Good Contact ii) Collaborative Problem Solving, iii) Active Listening and iv) Negative Style. The first two styles, together with empathy and respect, were significantly related to positive outcomes. Active Listening was not significantly related to positive outcomes. A mixed score of helpers’ directivity yielded better outcomes than high levels of directivity (completely leading the course of the call) and low levels respectively (totally following the lead of the caller).

The goals of the present study are to assess the reach of the 113Online chat service; to determine to what extent the 113Online crisis chat outcomes and their relation to helper styles are comparable to those found for telephone crisis calls; to identify areas for improvement of this service; and to formulate directions for future research.

3.1 Methods

Sample
113Online chat logs were recorded automatically in real time and without further processing on a secure dedicated server in the 113Online medical records database. From this database, 526 chatlogs of chats with 78 volunteer helpers were retrieved out of a total of 1,732 consecutive chat logs recorded between April 1st and June 1st, 2013. The inclusion criteria were: first chat visits per IP address with a duration of 20 minutes or longer, pertaining to visitors who were in crisis. Not included were chats too short in duration to make a proper assessment (n=512), repeat chats with visitors whose first chat in the study period was already included (n=666), chats with people seeking help for someone other than themselves and/or those bereaved by suicide (n=24) and non-crisis chats referred to 113Online professionals (n=4) (see Figure 2). Among visitors whose chat had been included, the mean number of chats during two month study period was 2.2 (SD=3.7, Range 1-31).

Procedure and analyses
Each of the included chat logs was coded by two independently coding research assistants; one coding outcomes and one coding helpers’ behaviors and attitudes. Research assistants were working on a voluntary basis, with no previous experience as a 113Online helper. They were trained in the application of the SMST
Evaluation of the 113Online suicide prevention crisis chat service
coding manual and coding forms using representative chat logs drawn from the 113Online medical record database. Their level of education varied from Masters students to Masters in Psychology, Social Sciences or Health Sciences who had graduated. Total training time amounted to approximately 100 hours per research assistant (9 training sessions each lasting 6-8 hours with 2-4 hours of preparatory homework).

In the chat logs, firstly the visitors characteristics (gender, age, nature of problems) were registered. Because chat visitors are anonymous, only the apparent gender and age could be determined. Chi-square statistics were used to test whether the nature of the visitors’ problems differed across gender and age group. Secondly, chat outcomes were studied, by coding a) the CCORS at the end of chats; and b) visitors’ emotional states and suicidal ambivalence at the beginning and end of chats, using a translated version of the SMST coding manual that was received.
directly from the primary investigator of this study. We estimated the amount of information on visitors’ emotional states in a two-minute telephone time frame to be about equal to the number of interaction in a ten-minute chat log fragment. The two-minute SMST observation timeframe for rating emotional states at the beginning and end of the intervention was extended to ten minutes in order to obtain enough information to score these states in chat logs. Observed improvement, no change, or deterioration in visitors’ emotional state at the end of the chat was calculated by subtracting start scores from end scores for each emotional state variable. Thirdly, helpers’ behaviors and attitudes were scored throughout the chat and related to both the CCORS and visitors’ emotional states. One-way ANOVAs were conducted to reveal significant differences between helper behaviors (empathy, respect, directivity) in chat outcomes. Bivariate linear regression analyses were carried out to assess the relationship between helper behaviors and total CCORS score, and the number of improvements in the visitors’ emotional states.

### 3.2 Measures

**Chat, and chat visitor characteristics**

The visitors’ apparent age and gender; and the presence of suicidal crisis were coded based on chat content as well as on the visitors’ answers to a non-compulsory pre-chat questionnaire (Table 8). The nature of problems was coded according to the SMST problem inventory, to which the new problem category “rumination about, or not able to stop thinking about suicide” was added.

**Chat outcomes**

The CCORS (Bonneson & Hartsough, 1987) is a validated 26 item rating scale. Items reflect visitors’ positive and negative experiences and behaviors, (e.g. “visitor said thanks”; “visitor went round in circles when talking”; or “visitor said the helper did not listen”) rated on a 7-point Likert scale with a sum score ranging from 26 to 182, higher sum scores indicating more successful outcomes. The CCORS had a good internal consistency in this study (Cronbach’s alpha 0.87).

Contrasting emotional states (Table 7); apprehensive-confident; sad-happy; helpless-resourceful; tired-dynamic; hopeless-hopeful; confused-decided) were scored on a 5-point Likert scale in the first and last ten minutes of the chat. In addition, coders scored whether or not a visitor was crying, desperate, and/or depressive. Suicidality was rated on a 3-point Likert scale: “wants to die”; “is
Table 7: Inter-Rater Agreement of visitor emotional states and helper behaviors

<table>
<thead>
<tr>
<th>Contrasting Visitor Emotional States</th>
<th>Agreement in %</th>
<th>Kappa</th>
<th>Weighted kappa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apprehensive/Confident (initial)</td>
<td>89.8%</td>
<td>.70</td>
<td>.72</td>
</tr>
<tr>
<td>Sad/Happy (initial)</td>
<td>98.0%</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Tired/Dynamic (initial)</td>
<td>90.8%</td>
<td>.43</td>
<td>.46</td>
</tr>
<tr>
<td>Helpless/Resourceful (initial)</td>
<td>67.3%</td>
<td>.38</td>
<td>.33</td>
</tr>
<tr>
<td>Hopeless/Hopeful (initial)</td>
<td>89.8%</td>
<td>.74</td>
<td>.74</td>
</tr>
<tr>
<td>Confused/Decided (initial)</td>
<td>82.7%</td>
<td>.43</td>
<td>.45</td>
</tr>
<tr>
<td>Crying (initial)</td>
<td>99.0%</td>
<td>.88</td>
<td>X</td>
</tr>
<tr>
<td>Depressive Mood (initial)</td>
<td>89.8%</td>
<td>.24</td>
<td>X</td>
</tr>
<tr>
<td>Desperate (initial)</td>
<td>89.8%</td>
<td>.73</td>
<td>X</td>
</tr>
<tr>
<td>Suicidal/Ambivalent (initial)</td>
<td>81.6%</td>
<td>.71</td>
<td>X</td>
</tr>
<tr>
<td>Apprehensive/Confident (final)</td>
<td>74.5%</td>
<td>.59</td>
<td>.66</td>
</tr>
<tr>
<td>Sad/Happy (final)</td>
<td>71.4%</td>
<td>.48</td>
<td>.56</td>
</tr>
<tr>
<td>Tired/Dynamic (final)</td>
<td>99.1%</td>
<td>.80</td>
<td>.79</td>
</tr>
<tr>
<td>Helpless/Resourceful (final)</td>
<td>56.1%</td>
<td>.27</td>
<td>.31</td>
</tr>
<tr>
<td>Hopeless/Hopeful (final)</td>
<td>70.4%</td>
<td>.49</td>
<td>.54</td>
</tr>
<tr>
<td>Confused/Decided (final)</td>
<td>61.2%</td>
<td>.31</td>
<td>.41</td>
</tr>
<tr>
<td>Crying (final)</td>
<td>100.0%</td>
<td>1.0</td>
<td>X</td>
</tr>
<tr>
<td>Depressive Mood (final)</td>
<td>83.7%</td>
<td>.67</td>
<td>X</td>
</tr>
<tr>
<td>Desperate (final)</td>
<td>81.6%</td>
<td>.62</td>
<td>X</td>
</tr>
<tr>
<td>Suicidal/Ambivalent (final)</td>
<td>79.6%</td>
<td>.59</td>
<td>X</td>
</tr>
</tbody>
</table>

**Helper behaviors**

<table>
<thead>
<tr>
<th>Helper behaviors</th>
<th>Agreement in %</th>
<th>Kappa</th>
<th>Weighted kappa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making contact</td>
<td>95.8%</td>
<td>.27</td>
<td>X</td>
</tr>
<tr>
<td>Factual questions on problems</td>
<td>99.2%</td>
<td>.85</td>
<td>.74</td>
</tr>
<tr>
<td>Direct questions on emotions</td>
<td>85%</td>
<td>.70</td>
<td>.69</td>
</tr>
<tr>
<td>Reframing</td>
<td>79.8%</td>
<td>.43</td>
<td>.46</td>
</tr>
<tr>
<td>Validating of emotions</td>
<td>96.6%</td>
<td>.39</td>
<td>.39</td>
</tr>
<tr>
<td>Moral support</td>
<td>90.8%</td>
<td>.38</td>
<td>.44</td>
</tr>
<tr>
<td>Why questions</td>
<td>90.8%</td>
<td>.58</td>
<td>.55</td>
</tr>
<tr>
<td>Challenge</td>
<td>99.2%</td>
<td>$</td>
<td>X</td>
</tr>
<tr>
<td>Own experience</td>
<td>94.2%</td>
<td>.64</td>
<td>.61</td>
</tr>
<tr>
<td>Reformulation</td>
<td>67.2%</td>
<td>.50</td>
<td>.58</td>
</tr>
<tr>
<td>Reflection</td>
<td>82.4%</td>
<td>.62</td>
<td>.63</td>
</tr>
<tr>
<td>Value judgement</td>
<td>77.5%</td>
<td>.43</td>
<td>X</td>
</tr>
<tr>
<td>Empowers resources</td>
<td>83.3%</td>
<td>.44</td>
<td>X</td>
</tr>
<tr>
<td>Suggests ways to solve the problem</td>
<td>70.0%</td>
<td>.54</td>
<td>.63</td>
</tr>
<tr>
<td>Questions on resources</td>
<td>63.3%</td>
<td>.39</td>
<td>.47</td>
</tr>
<tr>
<td>Tells visitor what to do</td>
<td>88.3%</td>
<td>.21</td>
<td>.22</td>
</tr>
<tr>
<td>Reads information to visitor</td>
<td>99.2%</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Suggests plan for visitor</td>
<td>88.3%</td>
<td>.40</td>
<td>X</td>
</tr>
</tbody>
</table>
ambivalent about suicide”; “wants to live”; with an additional option for coding the absence of information pertaining to suicidality, which was regarded as a missing value in the statistical analyses.

**Helper behaviors and attitudes**

To observe helper behaviors, the SMST scoring manual was used, consisting of 9 sections of helper behaviors, developed and tested by Mishara et al. (2007a) and based on models of active listening and collaborative problem-solving (Table 7). Items were coded on a scale of 0 (behavior was absent), 1 (present once or twice) and 2 (present three times or more), or were coded dichotomously (absent/present). Following Mishara et al. (2007a), helper behaviors were coded into four helpers’ styles: i) Supportive Approach and Good Contact: moral support, good contact, offers call back, reframing, validation of emotions, talks about own experience; ii) Collaborative Problem Solving: factual questions about the problem, questions on resources, suggests ways to solve the problem, questions on precipitating events, proposes no-harm contract, suggests plan for action, offers referrals; iii) Active Listening: re-formulation, reflection of feelings, questions on emotions, empowers accessing of resources, empowers to develop plan of action; iv) Negative Style: tells caller what to do, reads information, challenges the caller, makes value judgments.
Furthermore, raters scored the level of empathetic understanding, respect and helper directivity on a 5-point scale. Ratings of empathy and respectfulness were recoded into low (level 1 and 2), medium (level 3) and high (level 4 and 5). Ratings of directivity were recoded into non-directive (level 1 and 2); mixed (level 3) and directive (level 4 and 5).

**Inter-Rater agreement**

Ten research assistants coded chat visitors’ emotional states. Nine other research assistants rated helper behaviors. Research assistants were trained until inter-rater agreement percentages were comparable to those reported in the SMST. Table 7 lists the inter-rater agreement percentages, Kappa’s and weighted Kappa’s. Reaching acceptable inter-rater agreement proved hardest for the visitor emotional state variables Helpless/Resourceful in the beginning and end of the chat; for Confused/Decided at the end of the chat; and for the helper behavior intervention variable “Questions on resources”.

**Ethical considerations and funding**

This article reports on the retrospective study of 113Online files of de-identified anonymous online help seekers, to inform 113Online about processes and outcomes of the chat service. 113Online platform users are informed that their data or files can be used for quality assurance and service improvement purposes. Thus, this study does not fall within the scope of the Dutch Medical Research Involving Humans Act (WMO). Under Dutch law no medical ethical committee consent for doing this study or publishing the results hereof is required (see CCMO, 2015).

This study was funded by the 113Online Foundation together with a grant from the Dutch Suicide Prevention Foundation to train research assistants.

**3.3 Results**

**Chat, and chat visitor characteristics**

The average chat duration was 54.0 minutes (SD=18.3, range 20-144 minutes). Most chat visitors appeared to be female (n=382, 72.6%); 97 (18.4%) were male and in 47 of chats (8.9%) the apparent gender could not be determined. In total, 22.2% of the visitors were aged less than 18 years old, 53.6% were between 18 and 34 years old, and 17.7% were between 35 and 54. A small minority (1.7%) was apparently aged over 55. The apparent age category could not be determined for 4.8% of the chat visitors. With progressive age categories the male to female
Suicidal crisis and presenting problems

Table 8 shows the nature and acuity of suicidal crisis chats, and the nature of the visitors’ presenting problems, by gender and age groups. Most visitors were in suicidal crisis (86.1%), with 61.1% expressing suicidal intent without plans; 21.2%

<table>
<thead>
<tr>
<th>Type of Suicide Crisis</th>
<th>Total</th>
<th>Female</th>
<th>Male</th>
<th>&lt; 18 years</th>
<th>≥ 18 years</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide Crisis</td>
<td>451</td>
<td>86.1</td>
<td>89.7</td>
<td>79</td>
<td>81.4</td>
<td>.03</td>
</tr>
<tr>
<td>Attempt in progress</td>
<td>20</td>
<td>3.8</td>
<td>4.5</td>
<td>1</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Has attempt plan</td>
<td>111</td>
<td>21.2</td>
<td>21.3</td>
<td>21</td>
<td>21.6</td>
<td></td>
</tr>
<tr>
<td>Expressed intent</td>
<td>320</td>
<td>61.1</td>
<td>63.6</td>
<td>57</td>
<td>58.8</td>
<td></td>
</tr>
<tr>
<td>Non-suicide crisis</td>
<td>73</td>
<td>13.9</td>
<td>10.3</td>
<td>18</td>
<td>18.6</td>
<td></td>
</tr>
<tr>
<td>Total Crisis calls</td>
<td>524</td>
<td>100</td>
<td>100</td>
<td>97</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nature of Problem</th>
<th>Total</th>
<th>Female</th>
<th>Male</th>
<th>&lt; 18 years</th>
<th>≥ 18 years</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental health problems</td>
<td>314</td>
<td>59.7</td>
<td>61.5</td>
<td>49</td>
<td>50.5</td>
<td>.05</td>
</tr>
<tr>
<td>Family problems with parents or children</td>
<td>123</td>
<td>23.4</td>
<td>25.4</td>
<td>18</td>
<td>18.6</td>
<td></td>
</tr>
<tr>
<td>Ruminantion</td>
<td>98</td>
<td>18.6</td>
<td>19.6</td>
<td>16</td>
<td>16.5</td>
<td></td>
</tr>
<tr>
<td>School/professional problem</td>
<td>97</td>
<td>18.4</td>
<td>17.8</td>
<td>19</td>
<td>19.6</td>
<td></td>
</tr>
<tr>
<td>Relationship problems</td>
<td>8</td>
<td>15.4</td>
<td>14.4</td>
<td>24</td>
<td>24.7</td>
<td></td>
</tr>
<tr>
<td>Loneliness</td>
<td>79</td>
<td>15.0</td>
<td>15.4</td>
<td>15</td>
<td>15.5</td>
<td></td>
</tr>
<tr>
<td>Physical violence victim</td>
<td>53</td>
<td>10.1</td>
<td>12.6</td>
<td>4</td>
<td>4.1</td>
<td></td>
</tr>
<tr>
<td>Death of a close person</td>
<td>34</td>
<td>6.5</td>
<td>8.1</td>
<td>2</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>Verbal violence victim</td>
<td>34</td>
<td>6.5</td>
<td>7.6</td>
<td>4</td>
<td>4.1</td>
<td></td>
</tr>
<tr>
<td>Severe physical illness</td>
<td>32</td>
<td>6.1</td>
<td>5.2</td>
<td>6</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Physical or verbal violence perpetrator</td>
<td>8</td>
<td>1.5</td>
<td>0.8</td>
<td>5</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>Abortion/pregnancy</td>
<td>3</td>
<td>0.6</td>
<td>0.5</td>
<td>0</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>Trouble with police</td>
<td>2</td>
<td>0.4</td>
<td>0</td>
<td>0</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>101</td>
<td>19.2</td>
<td>16.2</td>
<td>26</td>
<td>26.8</td>
<td></td>
</tr>
<tr>
<td>Average number of problems</td>
<td>2.01</td>
<td>2.05</td>
<td>1.96</td>
<td>.42</td>
<td>2.15</td>
<td></td>
</tr>
</tbody>
</table>

Note. a In 47 chats gender was unknown and in 25 chats the age was unknown.
b In 2 chats type of suicide crisis was unknown.
c Suicidal crisis (Yes; No) vs Gender (Female; Male) and Suicidal crisis (Yes; No) vs Age (< 18 years; ≥ 18 years).
d 25% or more of the expected frequencies below 5.
expressing both suicidal intent and plans, and 3.8% contacting 113Online during, or just after a suicide attempt. The average number of problems visitors presented with was 2.0. Mental health problems (defined as having psychological problems and/or (receiving treatment for) psychiatric disorders like depression, anxiety or psychosis or PTSD) were mentioned most frequently by 59.7% of the visitors; followed by problems with family or partners (23.4%) and rumination (18.6%). Females were more often in suicidal crisis and mentioned mental health problems, death of a person close to them, and physical violence significantly more often than males. Males mentioned relationship problems and being a perpetrator of physical or verbal violence significantly more often than females. Visitors aged under 18 mentioned family problems with parents or children, school/professional problems and being a verbal violence victim significantly more often than visitors aged over 18. Visitors aged over 18 mentioned mental health problems and relationship problems significantly more often than visitors aged under 18.

3.4 Chat Outcomes

Crisis Call Outcome Rating Scale (CCORS)

The mean CCORS score was 114.1 (SD=16.8, Range 61-150). Looking at individual CCORS items, a mixed picture emerges. Visitors were rated to be (somewhat to very) dissatisfied for 27.6% of chats and in 28.7% to be (somewhat to very) satisfied. Scores on the item “visitor said he/she felt better” revealed that 33.1% did not seem to feel better, whilst 20.2% felt (somewhat, to a lot) better. With the item “visitor said thanks to the helper”, raters scored “disagree” in 26.9% and “agree” in 71.9% of the chats. In 46.3% of chats, visitors were coded to have mentioned new or more effective forms of coping during the chat.

Change in visitors’ emotional states

Table 9 shows the number and percentage of chats with observed improvement, no change, or deterioration in visitors’ emotional states at the end of the call. Improvement in a visitor’s emotional state was observed frequently (36.1-48.5%) with respect to every variable, except Tired/Dynamic, Crying and Suicidal Ambivalence. No change was observed more frequently in 43.2-64.2%. Deterioration in a visitors’ emotional state occurred incidentally (0.4%-13.4%). Suicidal Ambivalence was observed to improve in 3.4% and to deteriorate in 2.8% of chat visitors, with missing values in 64.1% of the chats.
Table 9: Outcomes for the overall sample (N=526), direction of change

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Deterioration</th>
<th>No change</th>
<th>Improvement</th>
<th>Missing data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Apprehensive/Confident</td>
<td>14</td>
<td>2.7</td>
<td>254</td>
<td>48.3</td>
</tr>
<tr>
<td>Sad/Happy</td>
<td>2</td>
<td>0.4</td>
<td>282</td>
<td>53.6</td>
</tr>
<tr>
<td>Tired/Dynamic</td>
<td>25</td>
<td>4.8</td>
<td>465</td>
<td>88.4</td>
</tr>
<tr>
<td>Helpless/Resourceful</td>
<td>65</td>
<td>12.4</td>
<td>255</td>
<td>48.7</td>
</tr>
<tr>
<td>Hopeless/Hopeful</td>
<td>18</td>
<td>3.4</td>
<td>252</td>
<td>47.9</td>
</tr>
<tr>
<td>Confused/Decided</td>
<td>70</td>
<td>13.4</td>
<td>227</td>
<td>43.2</td>
</tr>
<tr>
<td>Crying</td>
<td>8</td>
<td>1.5</td>
<td>498</td>
<td>94.7</td>
</tr>
<tr>
<td>Depressive Mood</td>
<td>5</td>
<td>1.0</td>
<td>328</td>
<td>62.4</td>
</tr>
<tr>
<td>Desperate</td>
<td>14</td>
<td>2.7</td>
<td>281</td>
<td>53.4</td>
</tr>
<tr>
<td>Suicidal Ambivalence</td>
<td>15</td>
<td>2.9</td>
<td>156</td>
<td>29.7</td>
</tr>
</tbody>
</table>

Note. aDeterioration: there was a change for the worse along this dimension.  
bNo change: there was no change measured between the beginning and end of the chat along this dimension.  
cImprovement: there was a change towards an improvement along this dimension.

Chat outcomes in relation to helpers’ attitudes and styles

**CCORS scores and emotional state improvement related to helpers’ styles and attitudes**

Significant differences were found between the three levels of empathy (low, medium, high) and CCORS score (F (2, 518) = 4.469, p = .012). Post-hoc tests revealed that low levels of empathy were associated with a lower CCORS score compared to medium (p = .011) and high empathy ratings (p = .009). Significant differences were also found between the three levels of respect and CCORS score (F (2, 519) = 5.099, p = .006). Post-hoc tests revealed that low levels of respect were associated with a lower CCORS score compared to high-level respect ratings (p = .027). Analysis of the CCORS scores and the three levels of directivity showed no significant differences (F (2, 520) = 1.745, p = .176). No differences were found in number of improvements between the three levels of empathy (F (2, 519) = .226, p = .798), respect (F (2, 520) = 1.483, p = .228) and directivity (F (2, 521) = 1.081, p = .340).

Table 10 shows the results of bivariate regression analyses with the CCORS and the number of improvements in visitor emotional state as dependent variables and helper styles as independent variables. Both the total CCORS score, and the
number of improvements in visitors’ emotional states were significantly associated with all helper styles, except Negative Approach.

Table 10: Helper styles related to CCORS and improvements in visitor emotional state

<table>
<thead>
<tr>
<th>Association with CCORS\a</th>
<th>B (± S.E.)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support. approach and good contact</td>
<td>4.58 (± 0.95)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Collaborative problem solving</td>
<td>1.98 (± 0.44)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Active Listening</td>
<td>2.37 (± 0.53)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Negative approach</td>
<td>2.60 (± 1.42)</td>
<td>.07</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Association with number of improvements in visitor emotional state\a,\b</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support. approach and good contact</td>
<td>0.47 (± 0.13)</td>
</tr>
<tr>
<td>Collaborative problem solving</td>
<td>0.23 (± 0.06)</td>
</tr>
<tr>
<td>Active listening</td>
<td>0.18 (± 0.07)</td>
</tr>
<tr>
<td>Negative approach</td>
<td>0.32 (± 0.19)</td>
</tr>
</tbody>
</table>

\aBased on bivariate linear regression analyses.
\bThe variable number of improvements in the chat visitor behavioural ratings is based on 8 of the 10 dimensions of table 5. The dimensions tired/dynamic and crying were not included in this variable.

Four one-way ANOVAs were conducted to compare scores on the four helper styles, between chatters whose suicidal ambivalence deteriorated, did not change, or improve during the call. There were no statistically significant differences found for the helper styles Supportive Approach and Good Contact (F (2, 186) = .768, p = .466), Collaborative Problem Solving (F (2, 186) = 1.545, p = .216), Active Listening (F (2, 186) = .362, p = .697) and Negative Approach (F (2, 183) = .095, p = .909).

A one-way ANOVA revealed that CCORS scores were significantly different in the three suicidal ambivalence groups (F (2, 185) = 4.164, p = .017). Post-hoc analysis showed that CCORS scores of visitors whose suicidal ambivalence deteriorated during the chat were significantly lower compared to visitors with no change in suicidal ambivalence (p= .014) or change in the direction of wanting to live (p= .005).

### 3.5 Discussion

#### Reach

The 113Online crisis chat service reaches a predominantly female and relatively young population, of which a significant proportion are return visitors. The ability to engage with young people is an asset of chat services, since telephone
hotlines are shown to be relatively underused by youths (Gould & Kalafat, 2009). Given their elevated risk, it is also paramount to reach middle aged, and male suicidal individuals who were underrepresented in our sample. Compared to the callers that Mishara et al. (2007a) investigated in the SMST, 113Online chat visitors seem to be experiencing a suicidal crisis more than twice as often (86.1% versus 35.2%). They have to cope with more types of problems (average 2.0% versus 1.3%) and suffer from mental health problems twice as often (59.7% versus 28.4%). The prevalence of mental health problems in our sample is comparable to the prevalence Gould et al. (2007) reported for a sub-sample of suicidal callers to the U.S. Lifeline Network. In line with the SMST findings no significant difference in the number of problems between males and females was observed.

Chat outcomes

Our findings indicate that the outcomes of the 113Online crisis chats in 2013 are generally comparable to the outcomes of crisis telephone calls of U.S. Lifeline centers in 2003 and 2004 that were reported by Mishara et al. (2007b). The 113Online mean CCORS score (114.1, SD=16.8) was higher but within the standard deviation of the mean U.S. Lifeline centers score of 102.4 (SD=18.5). With respect to the key variable our results are to be interpreted with great caution, as a consequence of the high number of missing values (64.1%). Compared to callers in the SMST, 113Online visitors’ suicidal ambivalence was observed to have moved in the direction of “want to live” less often (113Online: 3.4% vs U.S. Lifeline: 11.5%), and to have moved towards “want to die” more often (3.4% vs 1.7%). Comparing the other emotional state variables, more improvement and less deterioration was observed for the variables Desperate; Depressive Mood; Sad/Happy; Apprehensive/Confident and Hopeless/Hopeful. Less improvement and more deterioration was observed for Helpless/Resourceful and Confused/Decided.

The CCORS score, and the number of improvements in emotional state variables were significantly associated with the three positive helpers’ styles that Mishara et al. (2007a) have proposed. This conclusion is intuitively unsurprising, albeit Mishara et al. (2007b) did not find a significant association between positive outcomes and Active Listening, and did find an association with a mixed level of directivity which was not found to be significant in the current study. Higher levels of respect and empathy were associated with the CCORS score but not with the number of improvements in emotional state variables. This difference may be explained by the fact that the CCORS, compared to the emotional state variables, better captures the visitors’ subjective experience with the helper and is methodologically more sensitive to levels of empathy and respect. Still, these mixed findings
and differences with the SMST raise the question to what extent helpers’ styles and attitudes associated with better results in telephone counselling are valid and can be translated into best practices for crisis chat counselling.

The outcomes of the current study and the SMST appear to be in negative contrast with results of Gould et al. (2007) on the outcomes of telephone calls to U.S. Lifeline centers in 2003 and 2004. However, limitations of this study, as well as methodological differences and differences in reporting hamper a direct comparison of results. Gould et al., used questionnaires at the beginning and end of 1,085 calls, and found statistically significant changes for Intend to Die, Hopelessness and Psychological Pain. These effects are likely to be skewed towards the positive due to selection bias. Intoxicated or belligerent callers, chronic callers, callers that hung up, and callers not in a mental state fit to complete assessment were excluded a priori. From the eligible sample of 1,739 callers 654 (37.6%) were not assessed because their suicidal risk status was too high. Moreover, the implementation of the research protocol in their study may have influenced the nature of the interaction with the caller, limiting the generalizability of their findings (Kalafat et al., 2007).

In conclusion, the reporting on change in mean emotional state scores reveals to a lesser extent a sobering reality that is observed in the SMST and the current study: to a certain degree, lack of effect is to be expected from very brief interventions delivered by volunteers via chat or telephone, to suicidal individuals in crisis, struggling with multiple (mental health) problems.

There is, however, ample room for improvement. Gould et al. (2013) showed the positive impact of the implementation of the Applied Suicide Intervention Skills Training (ASIST; Livingworks, 2010) on helpers’ behaviors and call outcomes. Callers were significantly more likely to feel less depressed, less suicidal, less overwhelmed, and more hopeful by the end of calls handled by ASIST-trained versus non-ASIST trained counselors. While in a sizeable portion of calls little, or no change at all in callers’ suicidality was observed (ASIST: 40%, non-ASIST: 54%), generally the outcomes on suicidality were observed to more positive than the outcomes of our study, the SMST and Gould (2007). Callers were reported to be a lot less suicidal in 22% (non-ASIST) and 28% (ASIST) at the end of calls. This may be explained by more effective Lifeline interventions as a result of the standardization of risk assessment practices which has taken place over the years (Draper et al., 2015), on top of which the ASIST training has improved volunteers.
exploration of suicidal callers’ reasons to live and reasons to die; and have them identify informal sources of support (Gould et al., 2013).

Areas for service improvement

Given the general notion that more positive styles and attitudes lead to better outcomes, the question remains as to which elements in these styles and attitudes need to be further developed or strengthened to improve chat outcomes. Here, negative observations regarding individual CCORS items, mood states and missing values provide valuable clues for improvement.

As reported, scores on individual CCORS items illustrate that a portion of service users are critical of the help provided. This may reflect help visitors’ ambivalence in seeking help or negative attitudes towards helpers; fueled by their state of suicidality, crisis and despair (Deane, Wilson & Ciarrochi, 2001; Wilson & Deane, 2010). Due to the online disinhibition effect (Suler, 2004), these ambivalent or negative attitudes may be expressed online in an heightened and sometimes provocative fashion, resulting in a less productive dialogue. On the other hand, visitors’ criticism may reflect genuine dissatisfaction with the quality and outcome of the exchange with volunteers. During the period observed in this study, volunteers were specifically trained in the use of Solution Focused Therapy principles (Mokkenstorm et al., 2013). For well-trained therapists this approach is a fruitful way to work working with suicidal individuals (e.g. Fiske, 2008). From reading the chatlogs, it became clear that this approach can have drawbacks in its application by volunteers. E.g. a volunteers’ one-sided focus on “what’s strong” rather than on “what’s wrong”, steering attention away from the exploration of problems, may evoke a sense of lack of validation and disorientation in the visitor. This could explain why 12.4% of the 113Online visitors felt more helpless and 13.4 % more confused at the end of calls.

Seen in this light, the high percentage of missing values in the observation of Suicidal Ambivalence is of great concern. Missing values are the result of chat logs lacking explicit textual information regarding visitor suicidal ambivalence in the first and/or last ten minutes of chats. Observation of suicidal ambivalence in these time frames only may be less sensitive than observation during the entire interaction, as carried out by Gould et al. (2013) did. Still, the high number of missing values indicates a sub-optimal helpline practice with volunteers not focusing enough on suicidality at the beginning and the end of the conversation. This problem, which has been highlighted by studies examining telephone crisis services (Coveney et al., 2012; Gould et al., 2007; Gould et al., 2013; Kalafat et al., 2007; Mishara
et al., 2007b), may be even more prominent for crisis chats that are known to drift towards exploration of problems more than towards their solution (Bambling, King, Reid & Wegner, 2008; Chardon, Bagrain & King, 2011).

113Online helpers were trained to be patient and to allow conversation to flow, but to keep the chat duration within one hour where possible. Studying the chat logs, it became apparent that this instruction was too ambiguous. Sometimes helpers were observed to introduce the ending of the chat conversation in the last ten minutes of the hour, when at that point in time the visitor was about to open up on suicidality. Starting, structuring and ending conversations with those seeking help in a productive manner is more complicated in chat than in telephone or face to face interventions (Stommel, 2012; Stommel & te Molder, 2015) and requires special attention in volunteer training and supervision. As Drexler (2013) pointed out: it is key to be transparent about the focus and the purpose of the chat at the beginning and throughout the chat. As our study shows, chat duration is almost three times longer than call length reported in the SMST. While chat is a slow medium it is important for helpers to be patient, but also to be assertive in the process; and, if needed, gently remind the visitor to focus on critical issues within the available time without observing time limits in a forced manner.

In response to the preliminary findings of the current study 113Online has adapted practice policies in line with U.S. Lifeline best practices. Helpers are now instructed to more pro-actively explore with visitors’ reasons to live and reasons to die; assessing suicidal behaviors at the beginning of chats and returning to this issue at the end, working with visitors towards safety planning and links to care. In volunteers’ training, inter- and supervision, due emphasis is given to structuring the chat within reasonable but flexible time limits, with a pragmatic rather than principal use of solution-focused counselling techniques. In order to optimize this collaboration and to avoid harm resulting from a disappointing dialogue, volunteers are made aware of the pitfalls of online communication, in particular with visitors who display ambivalent, incongruent or provocative help seeking behaviors. The 113Online website look and feel has been adapted in order to be more inviting and accessible for males, and for middle-aged or older help seekers. Policies have been implemented to guide frequent use visitors, exploring with them potentially effective alternatives to regulate mood, and to link them to other forms of care. To further engage the highly volatile and vulnerable group of young visitors, 113Online is piloting simple therapeutic e-learning modules specifically tailored at problem areas this group frequently presents with.
3.6 Limitations

This study has several limitations. The current study has a naturalistic design, lacking controls and lacking follow-up to ascertain to what extent immediate call outcomes translate into more adaptive coping and the prevention of suicide (attempts). Due to age and gender bias, generalization of our findings to also include older and more mixed gender populations is limited. The exclusion of repeat chats with frequent service users prevents analysis of the nature of the function of the service for this group. Measurement of visitor emotional states, was carried out by rating chat visitor, written language, that is assumed to be reflecting visitors inner states completely and congruently. However, chat language is often fragmented and ambiguous, with visitors using innuendo, over- and understatements that hinder straightforward interpretation and coding. This implies a risk of observation bias, and could explain the limited maximal interrater agreement. In addition, rating visitors mood states in the first and last ten minutes of chats may have prevented a more sensitive measurement of overall change and reduce the number of missing values. Finally, our measures are developed to study telephone crisis counselling. Their construct validity and operationalization may be less suitable for a full investigation and understanding of what works in crisis chat intervention.

3.7 Conclusion

This study shows that outcomes of 113Online crisis chats in 2013 are generally comparable to the outcomes of crisis telephone calls to the U.S. Lifeline Network in 2003-2004, reported in the SMST (Mishara et al., 2007b). Compared to callers studied in the SMST, 113Online visitors are observed to be in suicidal crisis more often; to present with more (mental health) problems; and to be on average younger and more often female. While a substantial number of visitors (36-49%) were observed to be in a better emotional state at the end of the visit for most variables, no change in emotional state is observed more often (43-64%), and deterioration incidentally occurs (0-13%). Suicidality is often not actively addressed in the first and last ten minutes of chats, resulting in a large number of missing values (64%) for this variable. Along with observations related to structure of the online dialogue, the mixed results and apparent lack of focus on suicidality during chats have been adressed in revised 113Online practice, training and supervision standards. The study provided valuable information to further develop the 113Online platform and interventions in order to better reach and serve target audiences.
3.8 Future directions

Since it is to be expected that online crisis intervention will rapidly grow, it is paramount for service providers, experts and researchers to develop and share best practices in this field. Chat logs provide an excellent opportunity to investigate the of changes in visitors’ emotional states and suicidality, as reflected in written language. An initial objective for future research could be to assess the direct and follow-up impact of the implementation of possible online best practices, starting with best practices for telephone crisis intervention adapted for online use. Secondly, to differentiate the characteristics, needs, and preferences of different types of visitors, e.g. single service users versus repeat service users. Thirdly, to identify which interventions best serve different target populations and types of service users.

Given the distinct features of chat conversation, development of methods and measures specifically suited to investigate process and outcomes of crisis chat is needed. With respect to independent variables, it is to be determined what helpers’ behaviors, styles and attitudes are; what specific content areas they concern; and what typical communication patterns are commonly encountered in chat, and how they relate to outcomes. Here, the emerging field of Conversation Analysis may help identify typical online interaction patterns associated with better outcomes, that are different from patterns known to be effective in telephone counselling (Stommel & te Molder, 2015). Outcome variables should be rooted in a theoretical understanding of the development and prevention of suicidal behavior; and be operationalized in a way that allows for the observation of change based on written text only. Based on the Integrated Motivational-Volitional Models of Suicidal Behavior (O’Connor, 2011) the key concept of “entrapment” could be operationalized into outcome measures to be observed in chat logs; as could operationalizations of “perceived burdensomeness” and “thwarted belongingness” that are core to the Interpersonal Theory of Suicide (Joiner, 2005; Van Orden et al., 2010). In the near future computerized sentiment mining technologies (Pestian et al., 2012) performing linguistic process and content analyses may prove suitable to support or substitute research assistants reading chat logs, bringing within reach large scale studies of chat logs that could inform helplines to further improve service performance and outcomes.
Chapter 3

References


Exploration of benefits and potential harmful effects of an online forum for visitors of the suicide prevention platform in the Netherlands

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Annemiek Huisman
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Abstract

Aim of this chapter is to identify the reach, benefits and potential harmful effects for visitors of an online forum embedded in a suicide prevention platform in the Netherlands. Method: The study collected web-based questionnaires from online forum users and moderated posts. Descriptive quantitative and qualitative analyses were performed. Results: The online forum had 330 members in 2017, of which 130 were active users (posting at least one message). Users that responded to the questionnaire (n=106) suffered from high severity of suicidal ideation (78%). A minority (12%) visited the forum to find suicide methods and 3% to find a suicide partner. Among respondents who had visited the forum more than once (n=49), 53% reported no changes in feelings directly after forum use, 35% felt better and 12% worse. Peer support and anonymity were the most mentioned benefits, whereas no personal contacts and few reactions to postings were perceived as limitations. Suicide threats and the search for methods were the main reasons for moderating posts. Conclusion: In its current form, the forum has a low reach with few benefits and a potential for harm for its users. With a questionable benefit to risk ratio, the added value of the online forum appears to be small.
Introduction

Exploration of benefits and potential harmful effects of an online forum for visitors of the national suicide prevention platform in the Netherlands.

In this digital era, online forums (also known as bulletin boards, or internet support groups) that enable peer-to-peer interaction are widespread and readily available, with some evidence indicating a potential to favorably influence the course of mental health problems or to support the prevention or treatment thereof. Online forums for peer exchange between people suffering similar mental health problems may have several benefits for participants, like the opportunity to share thoughts and feelings in an anonymous and non-judgmental environment and to provide or receive empowering lived experience that promote recovery. As an example, a randomized controlled trial among distressed Australian adults showed significant reduction of depressive symptoms after 6 and 12 months of active participation in an online support group. (Griffiths et al., 2012).

Research addressing the effectiveness of online forums for suicide prevention is still in its infancy. To date, only a few studies have examined social media sites or platforms specifically developed for suicide prevention and none of the studies described online forums embedded in a suicide prevention organization (Robinson et al., 2015). Furthermore, most empirical evidence is available from uncontrolled, descriptive or qualitative studies. One study reported a significant decrease in suicidal ideation directly after forum use (Eichenberg, 2008), whereas other studies either did not find a relationship (Scherr & Reinemann, 2016) or found that online forum use was significantly related to higher levels of suicidal ideation at one-year follow-up (Dunlop, More, & Romer, 2011). Several researchers do however hypothesize that online forums may be beneficial for suicide prevention for various reasons (Daine et al., 2013; Mok, Jorm, & Pirkis, 2015; Robinson et al., 2016). Benefits for suicidal individuals include the anonymous, easily accessible and non-judgmental environment (Robinson et al., 2015). Online forums may also offer valuable support by providing a place where suicidal individuals can talk about their suicidal feelings, share problems with similar others and feel accepted and understood (Mok et al., 2015). More specifically, a qualitative study indicated that the immediate availability of peer support and distraction may help suicidal individuals to overcome recurring moments of crisis (Wiggins, McQuade & Rasmussen, 2016).

Up until now, researchers have found few direct adverse effects of online forums for suicidal individual. Conceivable harmful effects may include a fear that peer
interaction among people who are considering to take their lives could incite their suicidality further and provide an environment where people learn more about suicide methods or to find partners to die by suicide together. Eichenberg’s (2008) study of the typology and motives of 164 users of the largest German-language suicide forum suggests that these direct risks are negligible.

Apart from direct risks, forum use may impede or slow recovery, or may sustain suicidal behaviors.

It is known that suicidal individuals who use the internet for suicide related purposes experience more symptoms; are less likely to seek face-to-face help and perceive less social support than those who do not (Harris, McLean, & Sheffield, 2009). This was confirmed by two recent studies in which individuals at elevated risk of suicide were more likely to use online forums (Scherr & Reinemann, 2016; Seward & Harris, 2016). Furthermore, online forums may pose a risk to young suicidal individuals by normalizing suicide-related behavior such as self-harm and discouraging disclosure (Daine et al., 2013). In addition, one study showed that frequently visiting online support groups for mental health was related to worse recovery from self-stigma (Lawlor & Kirakowski, 2014). Therefore, a potential problem of online forum use is social avoidance, i.e. suicidal individuals might excessively use online forums to avoid social relationships and problems, as well as solutions in real life. Summarizing benefits and risks of online forums and support groups for people at risk of suicide, there may be a functional paradox with a potential “suicide-preventive” as well as a “suicide-inducing” function (Sueki & Eichenberg, 2012).

The present study evaluates the online forum of the national suicide prevention platform in the Netherlands ‘113 Suicide Prevention’. 113 Suicide Prevention offers the online forum as a peer support intervention service to enhance self-management of suicidality (Peterson & Collings, 2015), alongside other online and telephone interventions (crisis chat-and telephone lines; online therapy; guided online self-help courses and supportive smartphone app management tools) (Mokkenstorm et al., 2017). This study builds on insights into suicidal individuals who visit online forums to meet fellow sufferers (Eichenberg, 2008; Mok et al., 2015; Robinson et al., 2016), and aims to examine the experiences of individuals at high risk for suicide. To our knowledge, it is the first study evaluating an online forum embedded in a national organization for suicide prevention. In doing so, this study provides information for other national organizations to what extent an online forum serves as a helpful self-management tool of suicidality and a form of
Exploration of the 113 Suicide Prevention forum

peer support for suicide prevention. The aim of this study therefore is to identify the reach, benefits and potential harmful effects of an online forum embedded in a national organization for suicide prevention.

4.1 Method

Study design and procedure

This study concerned a cross-sectional survey to provide insight into the reach, benefits and limitations of the online forum of the Dutch organization for suicide prevention (from now on referred to as ‘113’). On this forum, visitors can read and write posts on topics about suicidal thoughts, feelings, questions and experiences. The forum aims to promote positive peer support and adaptive self-management as an addition to the other interventions and self-help opportunities that 113 provides (Mokkenstorm et al., 2013). Site visitors can access this forum through the 113 website and need to register with an e-mail address and password. Forum visitors are expected to respect forum rules and its code of conduct for contributors that include not describing methods of suicide or inviting or encouraging others to take their lives. A team of psychologists working at 113 moderates the forum. Moderators screen for and remove posts with undesired content but do not enter into dialogue with forum users.

Data collection using a questionnaire took place in two periods: March 15 to April 15 2016 and December 15 2016 to January 15 2017. The 113 website announced that the study was going to take place and the online forum system prompted all visitors who logged on to take part. When forum visitors consented, an online questionnaire popped-up as an extra page. The only exclusion criterion for the study was insufficient knowledge of the Dutch language. The questionnaire took approximately 15 minutes to fill out. Also, moderated posts were collected for this study for qualitative categorization. Permission was received from the board of 113 to conduct this research. According to prevailing Dutch law, this research did not fall under the scope of the Medical Research Involving Human Subjects Act as participants were not subjected to procedures or behavior rules (Central Committee on Research Involving Human Subjects, 2017).

Measurements

The questionnaire originates from the work of Eichenberg et al. (Eichenberg, 2008) and consisted of 21 closed questions, supplemented with the Suicidal Ideation Attributes Scale (SIDAS; Van Spijker et al., 2014) and 3 open-ended questions.
The questionnaire prompted participants to report on three subjects: 1) user characteristics, including severity of suicidal ideation, 2) reasons for use and usage habits, and 3) user experiences of the online forum.

Questions about user characteristics included age, gender, duration of suicidal thoughts, and current treatment use of 113 and other mental health care services. The severity of suicidal ideation was assessed using the validated 5-item SIDAS. The SIDAS uses a 10-point scale to measure five important features of suicidal ideation: frequency, controllability, nearness to suicide, distress and interference with daily activities. Total score ranges between 0-50, whereby a higher score indicates a higher severity of suicidal ideation. The scores break down into ‘no ideation’ (0), ‘low ideation’ (1-20) and ‘high ideation’ (21-50) (Van Spijker et al., 2014). The internal consistency of the SIDAS was good in our study sample (Cronbach’s $\alpha = .89$).

The second topic ‘reasons for use and usage habits’ included questions about motives for online forum use and writing on the online forum (Eichenberg, 2008). Respondents rated possible motives for using the online forum on a 5-point scale (0, does not apply at all, to 4, applies completely). The motives for writing on the online forum were measured by a multiple-answer question (Eichenberg, 2008).

The third topic contained a self-evaluation about changes in feelings directly after online forum use, i.e. improvement, entrapment, burdensomeness and connectedness (O’Connor & Nock, 2014; Van Orden et al., 2010). Respondents gave answers on a 3-point scale indicating ‘better’, ‘neutral’, ‘worse’. Furthermore, the questionnaire prompted respondents to indicate in three open-ended questions the positive and negative aspects and personal importance of the online forum.

**Data analysis**

SPSS version 24.0 was used for statistical analyses. First, missing values, duplicate cases and inconsistent data were checked and cleaned. Secondly, descriptive analyses were used to examine the distribution of the different variables among the study group. Data from ‘first time visitors’ was excluded from analyses on ‘usage habits’ and ‘user experiences’. Thirdly, the second author identified themes in the answers of the open-ended questions based on previous literature (Daine et al., 2013; Mok et al., 2015; Robinson et al., 2016) and discussed the results in detail with the co-authors. Based on the frequency of answers, two groups of most mentioned benefits and shortcomings were made. Last, the content of the moderated posts was analyzed by summarizing the most frequent reasons for removing or changing the posts.
4.2 Results

Reach of the forum

In 2017, the online forum of 113 Suicide Prevention had 330 members registered on the forum. Of these 330 members, 130 were active users by posting at least one message during the year, of whom 50 users posted at least 12 messages. The most popular forum component was entitled ‘living with a death wish’, where visitors posted 1,272 messages in 2017 related to 76 subjects (range 1-201 messages). Two other forum components (‘to introduce yourself’ and ‘living room’) contained, respectively, 267 and 120 messages. General topics such as ‘music, art and literature’, ‘tips’, ‘science’ and ‘health services’ had very few messages.

User characteristics

As shown in Table 11, a total of 106 respondents completed the pop-up questionnaire during the two-month data collection period, of whom more than half were first time visitors (54%; n=57), most were women (76%; n=81), and mean age was 30.8 years (SD=13.0).

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>106</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>22</td>
<td>20.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>81</td>
<td>76.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>2.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age in years</td>
<td>106</td>
<td>100</td>
<td>30.8</td>
<td>13.0</td>
</tr>
<tr>
<td>10-19 years</td>
<td>25</td>
<td>23.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29 years</td>
<td>34</td>
<td>32.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-39 years</td>
<td>17</td>
<td>16.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-49 years</td>
<td>18</td>
<td>17.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥50 years</td>
<td>12</td>
<td>11.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicidal ideation (SIDAS score)</td>
<td>106</td>
<td>100</td>
<td>29.4</td>
<td>13.2</td>
</tr>
<tr>
<td>No ideation (0)</td>
<td>8</td>
<td>7.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low ideation (1-20)</td>
<td>15</td>
<td>14.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High ideation (21-50)</td>
<td>83</td>
<td>78.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of suicidal ideation*</td>
<td>98</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than a month</td>
<td>4</td>
<td>4.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-6 months</td>
<td>19</td>
<td>19.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-12 months</td>
<td>14</td>
<td>14.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than a year</td>
<td>43</td>
<td>43.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As long as I can remember</td>
<td>18</td>
<td>18.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 11: Characteristics of the study group (continued)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under mental health carea</td>
<td>98</td>
</tr>
<tr>
<td>Yes</td>
<td>57</td>
</tr>
<tr>
<td>No</td>
<td>41</td>
</tr>
<tr>
<td>talked about suicidal ideation next to forumb</td>
<td>97</td>
</tr>
<tr>
<td>Yes</td>
<td>55</td>
</tr>
<tr>
<td>No</td>
<td>42</td>
</tr>
<tr>
<td>Discussion partnersa,b</td>
<td>97</td>
</tr>
<tr>
<td>(Mental health) professional</td>
<td>39</td>
</tr>
<tr>
<td>GP</td>
<td>17</td>
</tr>
<tr>
<td>Partner</td>
<td>11</td>
</tr>
<tr>
<td>Family member</td>
<td>10</td>
</tr>
<tr>
<td>Friend</td>
<td>30</td>
</tr>
<tr>
<td>Preacher, imam</td>
<td>0</td>
</tr>
<tr>
<td>Use of 113 services past monthb</td>
<td>106</td>
</tr>
<tr>
<td>Crisis chats</td>
<td>33</td>
</tr>
<tr>
<td>Crisis phone</td>
<td>4</td>
</tr>
<tr>
<td>Online therapy</td>
<td>13</td>
</tr>
<tr>
<td>Online self-help course</td>
<td>9</td>
</tr>
<tr>
<td>Group chat</td>
<td>9</td>
</tr>
<tr>
<td>None</td>
<td>48</td>
</tr>
</tbody>
</table>

Note. a respondents with 'no suicidal ideation' (n=8) were declared as missing. b multiple answers.

The group of 106 respondents predominantly consisted of individuals with high severity of suicidal ideation according to the SIDAS (78%), who suffered from suicidal thoughts over an extended period of time, i.e. longer than a year (44%) or their entire lifetime (18%). A smaller group (38%) experienced suicidal thoughts for a relatively short time (< 1 year). Six out of ten respondents with suicidal thoughts were in mental health care treatment (58%). About 57% had talked to others about their suicidal thoughts next to online forum users. When asked with whom, a (mental health) professional (40%) and friend (31%) were mentioned most. More than half of the respondents (55%) had also used other 113 online services in the past month, 31% had recently used the crisis chat service of 113.

Reasons for online forum use and usage

Table 12 shows the results of motives for visiting the 113 forum and online forum usage habits. Most respondents were first time visitors (n=57) that reported the following motives: they wanted to meet people with similar problems, to reduce their suicidal thoughts, or they looked for sharing problems and peer support. Of the 106 respondents, 14 (13%) mentioned that they were searching for effective suicide methods and 3 (3%) mentioned finding a suicide partner as the motive for visiting the forum. Among respondents who had visited the forum more than once (n=49), 77% were passive online forum users as they infrequently posted mes-
sages (less than once a month). When asked about reasons for writing on the online forum, most users wanted to express their suicidal thoughts (39%), describe their problems (31%), or share with others how they cope with suicidal thoughts (22%).

Table 12: Usage habits and reasons for use of the 113 forum

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of the forum use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First time visitor</td>
<td>106</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than a month</td>
<td>57</td>
<td>53.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-6 months</td>
<td>10</td>
<td>9.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-12 months</td>
<td>7</td>
<td>6.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than a year</td>
<td>8</td>
<td>7.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motives for forum use (0-4)</td>
<td>106</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In order to meet people with similar problems and thoughts</td>
<td>2.5</td>
<td>1.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In order to get rid of my suicidal thoughts</td>
<td>2.2</td>
<td>1.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In order to overcome the crisis together with people with similar problems</td>
<td>2.0</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In order to share the problems behind my suicidal thoughts</td>
<td>1.9</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In order to help others</td>
<td>1.4</td>
<td>1.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In order to receive information on how to deal with people who have suicidal thoughts</td>
<td>1.3</td>
<td>1.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In order to obtain information about professional help</td>
<td>1.3</td>
<td>1.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In order to find a person to contact in an acute suicidal crisis</td>
<td>1.1</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curiosity</td>
<td>1.1</td>
<td>1.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In order to receive details on effective suicide methods</td>
<td>0.9</td>
<td>1.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In order to find someone to commit suicide with</td>
<td>0.3</td>
<td>0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of the forum visits^a</td>
<td>44</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily</td>
<td>17</td>
<td>38.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week to once a month</td>
<td>17</td>
<td>38.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than once a month</td>
<td>10</td>
<td>22.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of the postings^a</td>
<td>43</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily to once a week</td>
<td>10</td>
<td>23.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than once a month</td>
<td>20</td>
<td>46.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>13</td>
<td>30.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motives for postings^a,b</td>
<td>49</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I express my suicidal thoughts</td>
<td>19</td>
<td>38.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I describe the problems that lead to my suicidal thoughts</td>
<td>15</td>
<td>30.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I share with others how I overcame my suicidal thoughts</td>
<td>11</td>
<td>22.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I ask for help</td>
<td>10</td>
<td>20.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am trying to dissuade others from their suicidal thoughts</td>
<td>9</td>
<td>18.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I ask others about their suicidal thoughts</td>
<td>7</td>
<td>14.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am trying to solve other people's problems that lead to suicidal thoughts</td>
<td>6</td>
<td>12.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I simply chat with the other participants: the subject of suicide is irrelevant</td>
<td>6</td>
<td>12.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. ^a ‘first time visitors’ (n=57) were declared as missing. ^b multiple answers.

User experiences

Figure 3 shows most forum users who had visited the forum more than once (n=49), reported no change in feelings directly after forum use, about ‘feeling entrapped’,
‘feeling connected to life’, ‘feeling like a burden to others’. Yet, 35% reported feeling better right after use (17/49) and 12% reported feeling worse (6/49).

Also, 11 frequent visitors (22%) reported to have experienced undesired events while using the forum. The most frequent negative experience that forum visitors reported concerned the disturbing nature of extreme reactions of fellow users and the unavailability of direct messaging between forum users and few reactions to personal postings (“I regret that if you’ve written something, there are few or no comments and this keeps me from writing to the forum.”). The second frequent type of negative experiences pertained to the removal of posts by moderators. Some users felt they were too strict in controlling postings and the ethical code of conduct, i.e. being not allowed to discuss suicide methods or means, was felt to be too stringent (Figure 4).

The most important experienced benefit of the online forum of 113 was peer support: sharing experiences with similar others, feeling accepted and understood and not being judged by others (“The fact that I’m not the only one and can express feelings to people who recognize or understand this and do not judge it.”). Users also valued the anonymity of the forum, being able to talk openly about their suicidal thoughts and providing support to fellow sufferers (“To report I’m fine and maybe help others.” “Look, even though I almost jumped in front of the train, it can pass, there’s help or medication that works.”).
Figure 4: Benefits and shortcomings of the online forum illustrated by quotes (translated by the authors)

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharing experiences with similar others</td>
<td>“To find opportunities to help others or to hear from others how they overcome or deal with their suicidal thoughts”</td>
</tr>
<tr>
<td>Feel accepted and understood, non-judgmental</td>
<td>“The fact that I’m not the only one and can express feelings to people who recognize or understand this and do not judge it”</td>
</tr>
<tr>
<td>Anonymity</td>
<td>“A place where I can be anonymous and in doing so, without any consequences”</td>
</tr>
<tr>
<td>Being able to talk openly</td>
<td>“Talking to someone was quite a relief”</td>
</tr>
<tr>
<td>Peer support</td>
<td>“To report I’m fine and maybe help others” “Look, even though I was almost in front of the train, it can pass, there’s help / medication that works”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shortcomings</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>No personal chat</td>
<td>“I really miss a personal chat feature”</td>
</tr>
<tr>
<td>Few responses to first poster</td>
<td>“I regret that if you’ve written something, there are few or no comments and this keeps me from writing to the forum”</td>
</tr>
<tr>
<td>Moderator</td>
<td>“Too fast, what you’ve written is modified, just like in the real world, things you say will be used against you”</td>
</tr>
<tr>
<td>Ethical code of conduct</td>
<td>“Certain rules about not being allowed to discuss methods and means”</td>
</tr>
</tbody>
</table>

Moderated posts

A team of psychologists working at 113 routinely screen for and remove posts with undesired content like describing methods to commit suicide or encouraging or inviting others to die together. In 2017, 113 moderated an estimated 15 to 20 posts each month. In reality, the number of moderated posts is likely to be higher due to underreporting by the psychologists. Most of the collected moderated posts that were removed contained both suicide plans and explicit reference to one or more suicide methods, such as: “I am strongly thinking about taking a huge amount of medication, but how much is enough?” Or “I am going to use a well-known suicide method involving gas, everything has been ordered, now the only thing left to do is testing it and setting a date”. Other postings that were removed contained advertisement for other forums, requests for interviews, requests for removal of postings from the writer him/herself or the postings contained too much personal information.

4.3 Discussion

The current study aimed to identify the reach, benefits and potential harmful effects of an online forum embedded in a national organization for suicide prevention. Our four main findings are discussed.
First, our findings show that the 113 forum has a low reach with a small user group compared to the other services available at 113: In 2017 there were 330 forum members throughout the year. This is a relatively small number given the 50,000 crisis calls conducted by 113 in the same year. While the number of users of other 113 services has tripled between 2012 and 2017, the number of forum users has remained at the estimated number in 2012 (Mokkenstorm, Huisman, Kerkhof, Smit, 2013). This lack of growth in reach of the 113 forum may be due to a less prominent presentation on the renewed 113 website, combined with the further development and improvement of 113 services that allow for more direct personal contact with trained volunteers and professionals, especially the crisis chat and –telephone and online therapies. This suggests that visitors to the website of 113 are looking more often for ‘direct help’ instead of peer support.

Secondly, visitors to the forum of 113 consist of a group of individuals that suffer from relatively severe suicidal thoughts over an extended period of time. This is in line with both Eichenberg and previous other research on online help-seeking, that indicated that some of the highest risk individuals prefer anonymous online help for their suicide-related problems (Seward & Harris, 2016). This is most often the case with young adults (Seward & Harris, 2016). We also found that 56% of the forum visitors were below 30 years (24% 10-19 years, 32% 20-29 years), as opposed to 88% in the study of Eichenberg (2008). Our results may support the idea that online forums are not only appealing for young suicidal individuals, but instead, are also visited by middle-aged persons (Scherr & Reinemann, 2016).

Unlike the earlier research of Eichenberg (2008), the forum of 113 did not appear to change most users’ feelings. Only one third of the forum users reported to feel better after the forum visit. Moreover, about one in ten users reported feeling worse after forum use. Inconsistent results in this regard have been found in the few studies that examined the effectiveness of online forums or support groups on suicidality. So, it is too early to say anything conclusive about the effectiveness, and better-designed studies such as RCT’s are needed.

From the perspective of suicide prevention our survey indicates a risk of adverse events with 3% of users seeking a partner to take their lives with and 13% looking for effective methods to die by suicide. One in five forum members reported negative experiences from extreme reactions of peers that exchanged explicit suicide methods or suicide threats. This illustrates that the functional paradox mentioned in the introduction of this paper is a reality: a suicide prevention forum can induce distress among suicidal forum users and may promote the motiva-
tion to die by suicide among some of them. To lower the risk of adverse events, clear and restrictive forum rules should be formulated, continuous monitoring and moderation of harmful or unhelpful posts has to be secured, and opportunities for peer-to-peer communication should be blocked. These measures however evoke negative reactions among forum members that felt impeded or not validated in their expression of their suicidality. Also, moderators have observed forum members to develop forms of coding of their messages to circumvent moderation.

Using a broader definition of harm that includes unintended negative outcomes like a prolonged illness episode as a result of suboptimal treatment or by interventions that sustain symptoms, it is the question to what extent the 113 forum shortens or prolongs the duration of suicidality among its members. It is worrisome that about 40% of the forum visitors indicated not to use mental health care nor talked about their suicidal ideation with significant others, apart from the forum. While it is positive that the forum provides some connection to others concerning their suicidality, it is concerning that most users report to have been suicidal for years. Based on previous research in anorexia, online forums may bear the risk of normalizing and strengthening suicidal thoughts and behaviors, and the group bond created through sharing may discourage forum users to reveal their suicidal thoughts in the real world (Gavin, Rodham & Poyer, 2008). In this sense it is possible that the 113 forum adds to normalizing or validating suicidality rather than offering a point of departure for reduction of suicidality.

4.4 Strength and limitations

The results of the current study should be considered in light of several limitations. First, the cross-sectional design of the study precludes any firm conclusions about the effectiveness or the harmful effects of the online forum use on suicidality. It is not known whether the group of respondents is representative of all visitors of the 113 forum or of other forums for suicide prevention. Second, more than half of the respondents were first time visitors. Consequently, usage habits and user experiences were only available from a relatively small group that visited the forum more than once.

An important strength of the present study is that we had access to a group of extremely hard-to-reach individuals with relatively severe and long-standing suicidality. Moreover, we used a validated questionnaire to measure the severity of suicidal ideation online (Van Spijker et al., 2014). Together with the use of open-
ended questions, this design made it possible to get more insight in user experiences of a high-risk suicide group. A final strong aspect of the current study is the content collection of moderated posts whereby this study may inform other organizations about potentially adverse reactions.

### 4.5 Conclusion

The added value of the online forum appears to be small for 113 with a questionable benefit to risk ratio. The majority of users were passive forum users. Peer support and anonymity were the most mentioned benefits of the forum. Yet, all 113 services can be accessed anonymously, and the desired peer support also appears to have several shortcomings, since supportive responses of peers were scarce and disturbing extreme responses did occur. Like findings in anorexia research, online forums may bear the risk of normalizing and strengthening self-harming thoughts and behaviors, and the group bond created through sharing may discourage forum users to reveal their suicidal thoughts in the real world (Gavin, Rodham & Poyer, 2008). Thus, the 113 forum may not only offer some benefit to its users, but also expose them to risks that are hard to avoid or control.

### 4.6 Implications

The online forum of 113 was developed as a community-oriented prevention approach to facilitate peer support. The present study draws attention to the prevention paradox (Segall, 1981; Rose, 1985), present in community prevention approaches where small expectation of benefit for individuals can easily be outweighed by small risks; or in the case of the 113 forum: by incidentally occurring serious adverse effects (like suicide attempts or death by suicide).

Of course, benefits of an online forum for suicide prevention may be improved, e.g. by using a closed and highly structured format; by more active engagement in the forum by trained volunteers, or preferably, certified peer specialist with lived experience. Persuasive technology and visual elements like chat-bots and movie may also provide valuable peer support (Kelders, Kok, Ossebaard & van Gemert-Pijnen, 2012). Artificial intelligence and text mining may be able to ease the moderation of messages and reduce risk. Still, the self-harming and self-defeating dynamics to be expected in communities of people with suicidal thoughts and behaviors constitute an inherent and potential lethal risk to vulnerable participants.
This risk appears hard or even impossible to completely rule out as measures to lower the risks are time- and labor-intensive and may evoke unintended and undesired effect by themselves. With suicide at stake this balance is of even greater importance, especially when this risk results from peer exchange facilitated by a suicide prevention organization.

Confronted with the questionable benefit to risk ratio; and with the challenge to improve the quality and impact of its services (accessibility, reach, effects) with the available resources it was decided to close the 113 forum in its current form. Forum users were informed timely and provided with information to and find help and peer support, including a Dutch suicide forum moderated by persons with lived experience. This announcement did not lead any negative responses or comments. Recognizing the demand for peer-exchange in the community of people with suicidal behavior, 113 chose a policy to engage with forums and social media platforms to inform them about potential benefits and risks; ways to improve the benefit to risk ratio; to guide moderation and to promote adequate help seeking among forum participants. This fits well within the 113 strategy that aims at responsible reporting, promoting Papageno effect and preventing Werther effects to occur in the media. 113 expects to have a greater suicide prevention impact by collaborating with several social media platforms and forums than by providing a forum service within the 113 platform. Pending more clarity on benefits and risks and ways to optimize the prevention impact we advise suicide prevention organizations to do likewise.
Chapter 4

References


Chapter 4


Part II
Suicide Prevention Guideline Implementation in Specialist Mental Healthcare Institutions in the Netherlands

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Abstract

In the Netherlands, on average 40% of all suicides concern patients treated by mental healthcare institutions (MHIs). Recent evidence indicates that implemented guideline recommendations significantly reduce the odds for patients to die by suicide. Implementation of the multidisciplinary guideline for diagnosis and treatment of suicidal behaviors is a main objective of the Dutch National Suicide Prevention Strategy. To this end, 24 MHIs that collectively reported 73% of patient suicides in 2015 received an educational outreach intervention offered by the national center of expertise. Aim of this chapter is to investigate changes in levels of implementation of guideline recommendations; and to assess the degree of variation on suicide prevention policies and practices between MHIs. Methods: Implementation study with a prospective cohort design studying change over time on all domains of a Suicide Prevention Monitor, a guideline-based instrument assessing suicide prevention policies and practices within MHIs. Data were collected in six-month intervals between 2015 and 2017.

Results: MHIs improved significantly on four out of ten domains: the development of an organizational suicide prevention policy; monitoring and trend-analysis of suicides numbers; evaluations after suicide; and clinician training. No improvement was measured on the domains pertaining to multi-annual training policies; collaborative care with external partners; recording and evaluation of suicide attempts; routine assessment of suicidality in all patients; safety planning and involving next of kin and carers. Furthermore, marked practice variation between MHIs was found which did not decrease over time. Conclusion: This study shows significant improvement in the implementation of four out of ten guideline-based suicide prevention policies in 24 specialist mental healthcare institutions in the Netherlands. The implementation level of suicide prevention policies and practices still appears to vary significantly between MHIs in the Netherlands.
Introduction

In the Netherlands, little progress has been made in structurally reducing suicide rates. Taking into account population growth and ageing, the Dutch suicide rate is at the level of the early 1990s (11.1 per 100 thousand residents). Between 2007 and 2013, the population number increased by 2% to 16.87 million and the annual number of suicides increased by 37% (CBS, Central Statistical Bureau the Netherlands) 2014). To address the problem of increased suicide rates in the Netherlands, the first National Suicide Prevention Strategy 2014–2017 was launched by the Dutch Ministry of Health, Welfare and Sports (Ministry of Healthcare Welfare and Sports, 2014). This Strategy was developed with over 20 stakeholders that committed to its realization. It contained 17 goals across 4 domains: healthcare, education, media and the social-economic sector. With the support of all stakeholders involved, 113 Suicide Prevention (from here on referred to as 113) was commissioned to promote and monitor the progress of the National Strategy including guideline implementation. Started in 2009 as an e-health platform for people at risk of suicide in 2009, 113 has developed into a national suicide prevention resource and expertise center. Apart from providing online anonymous healthcare, current activities include advocacy; creation of suicide prevention action networks with stakeholders; media surveillance; training and education; and consultancy on suicide prevention, quality improvement and implementation management.

In mental healthcare, implementation of the Dutch multidisciplinary practice guideline for diagnosis and treatment of suicidal behavior (PGSB) (Van Hemert, Kerkhof, de Keijser, Verwey, van Boven, Hummelen, de Groot, Lucassen, Meerdinkveldboom, 2012) was chosen as a main objective of the Agenda. The PGSB was published in 2012 alongside with a Train-the-Trainer program that had been developed to support its dissemination and adoption (De Beurs et al., 2015).

Enhancing guideline implementation to reduce suicide rates has a clear rationale. On average, four out of ten suicides in the Netherlands concern patients treated by specialist mental healthcare institutions (MHIs) (Dutch Healthcare Inspectorate, 2013). Recent evidence indicates that systematic and large-scale improvement of the quality and safety of healthcare services can significantly reduce suicide rates in clinical populations (While et al., 2012). As Kapur et al. (2016) showed, suicide rates dropped between 22% and 29% per implemented service improvement.
Before publication of the PGSB, a marked degree of practice variation in the care for patients at risk of suicide in the Netherlands was observed (Verwey, Van Waarde, Van Rooij, Gerritsen & Zitman, 2007). Two out of three MHIs lacked well-defined suicide prevention standards. Guidelines that were used were often lacunar. Guideline implementation is intended to result in a higher quality of healthcare with lower practice variation across the country, eventually leading to lower suicide rates: it may take many years before implementation efforts take root on a scale large enough to improve the quality of care and to impact suicide rates (Cooper et al., 2013).

Guideline implementation is notably hard, with barriers at the patient, professional, organizational and cultural level. Effective implementation starts by undertaking a situation analysis and selecting a strategy tailored to overcome present and expected barriers (Grol & Grimshaw, 2003; WHO, 2012). Important barriers to suicide prevention guideline implementation observed in Dutch MHIs were a lack of investment in quality improvement due to budget cuts and fear of blame. Although Dutch healthcare ranks among the best in the world (Health Consumer Powerhouse, 2015), in 2006 a major healthcare reform was effectuated aimed at containing growing (mental) healthcare expenditure by a system of managed competition on healthcare markets. In 2012, mental healthcare budget cuts were intensified in response to the economic crisis and still-growing expenditure. In addition, MHIs experienced growing financial pressure by healthcare insurers to measure and report treatment outcomes (Maresso et al., 2015).

Fear of blame was expressed during the development of the Strategy in 2013. Although they supported the general objectives of the Agenda, MHI representatives were concerned that unjustified expectations of guideline implementation would lead society to blame MHIs more often for not being able to prevent suicide. Commenting on the planned launch of the Agenda, the lead agency for Mental Healthcare providers (AMHAC-NL) stated that suicide rates are hard if not impossible to influence (Ministry of Healthcare Welfare and Sports, 2013).

Given these barriers, it was apparent that guideline implementation and monitoring would require an approach that would optimally support, engage and involve MHIs, especially in the process of assessing the results of their achievements. To this end, 113 developed the Suicide Prevention by Educational Outreach protocol (SP-EDO). This multifaceted strategy combined two implementation strategies that emphasize improvement by learning: educational outreach and action research. The key component of this strategy was the Suicide Prevention Monitor instru-
ment to guide and measure change in levels of implementation of 10 guideline-based suicide prevention recommendations. The primary aim of this study is to analyze change in the level of implementation of these policies in the course of a three-year period, from 2015 to 2017. The secondary aim is to assess the degree of practice variation between participant MHIs in the course of this period. These outcomes will be discussed and future developments will be explored.

5.1 Methods

Design and setting
An observational study was conducted, assessing change in levels of implementation of guideline-based suicide prevention policies in specialist mental healthcare in The Netherlands between 2015 and 2017. This three-year time frame coincided with the launch of the first National Strategy 2014–2017. The study setting was specialist mental healthcare. Specialist mental healthcare is organized around 35 large MHIs in geographical catchment areas serving patients with severe and complex psychiatric and substance abuse disorders and acute psychosocial crisis. Typical MHI services include crisis resolution care; assertive outreach and recovery-oriented care; outpatient, day and inpatient psychiatric care; residential care; addiction and forensic care; general hospital consultation and liaison care. These services are offered to adults aged 18 and older including the elderly and can be accessed on general practitioner referral. Apart from waiting lists for some specialist treatments, access to care is generally good. Dutch inhabitants have mandatory insurance against the cost of healthcare with a fixed deductible for specialist care (currently €385 per year). For those with a low-income, insurance costs and deductibles can be alleviated by healthcare allowances and social assistance benefits.

Participants
Participants were MHIs providing integrated specialist mental healthcare. Aiming for national coverage and representation with a limited time frame and budget, it was intended to include a cohort of MHIs that cumulatively report 70% of the patient suicides in specialist mental healthcare. Selection was based on the Dutch Healthcare Inspectorate listing of 182 MHIs that reported suicides between 2007 and 2012, of which 35 MHIs provide integral specialist mental healthcare (Dutch Healthcare Inspectorate, 2013). This listing shows that the majority of MHIs report low numbers of suicides; and shows that a stable majority of 25 MHIs that are known to treat great numbers of patients report 10 or more suicides per year.
Twenty-five MHIs that reported 10 or more suicides in 2011 and 2012 were approached to participate, receiving an invitation letter with a follow-up telephone call to the MHI Board of Directors. One MHI declined due to a lack of time and different priorities. At the start of the study in 2015, the participant MHIs cumulatively reported 73% of the patient suicide mortality to the Dutch Healthcare Inspectorate (500 suicide deaths in the participant MHIs: 684 in all MHIs) with suicide rates ranging between 40 and 226 suicides per 100,000 patients, with an average of 113 suicides per 100,000. On average, the 24 included MHIs treated 21,500 patients per year.

All participant MHIs are governed by a board of directors that manage divisions and teams across the spectrum of specialist mental healthcare services. By law, a psychiatrist working as a non-board Chief Medical Officer (CMO) independently monitors the quality of care for patients. Within each MHI, a contact person was assigned to represent the organization and provide the information needed. Contact persons were either the CMO or a commissioned policy advisor supervised by the CMO or Board of Directors.

**The SP-EDO implementation strategy**

SP-EDO was developed as a multifaceted implementation strategy, consisting of four components: change-agents, a suicide prevention monitor, feedback and dialogue sessions and meetings for learning and exchange. SP-EDO blends techniques derived from educational outreach or academic detailing described by Soumerai and Avorn (Soumerai & Avorn, 1990) with principles of action research (Reason & Bradbury, 2001). Educational outreach, or “academic detailing” is a frequently used implementation strategy which demonstrated moderate effects on improvement of patient care (Grol & Grimshaw, 2003). It is based on social influence theories of implementation, involving different techniques to increase knowledge, raise awareness and readiness for change, and provide positive reinforcement of improved practices.

Action research recognizes that the process of observation of implementation by itself may positively or negatively influence the process of implementation. In the sensitive area of suicide prevention, measurement of levels of implementation may evoke defensive reporting or outright withdrawal to avoid the risk of being blamed or shamed. Thus, a design that strongly relies on objective measurement by an external agent in order to yield the hardest possible data may seriously backfire. Action research is an interactive inquiry process that balances problem-solving actions implemented in a collaborative context with short supportive cycles of
data-driven research of the results of the implementation. Thus, data gathered for scientific purposes is used to drive learning and implementation cycles.

In the present study, data were collected using a collaboratively developed Suicide Prevention Monitor and a scoring procedure based on consensus between the MHIs and change-agents. This collaborative approach was chosen to mitigate the risk of defensive MHI reporting or withdrawal that was to be expected given the ambivalence of MHIs towards suicide prevention guideline implementation and monitoring. While these consensus-based data may be regarded as less objective than external observations per se, they were considered valid enough to provide MHIs with a frame of reference to guide their actions and to scientifically assess the progress of implementation over time.

**Change-agents**

To operationalize SP-EDO, a team of four change-agents was recruited based on their expertise in suicide prevention, marketing and detailing, and quality improvement. The team consisted of two senior consultants with extensive experience in the field of guideline development and implementation (Master level sociologist with a background in psychiatric nursing; Postdoc with a Master’s degree in Health Sciences and a background in nursing); a 113 psychologist/suicide prevention trainer; and a licensed psychosocial counselor with 10-year working experience as a pharmaceutical sales representative and sales manager. Two psychiatrists who provided guidance with respect to substantive mental healthcare issues supported the team. This team was sent out to establish a trusting relationship with MHI representatives in order to (1) develop and score the Suicide Prevention Monitor; (2) have dialogue and feedback sessions on MHIs’ progress of implementation; and (3) offer them learning and exchange meetings. Figure 5 presents a timeline overview of the SP-EDO implementation strategy.

**Figure 5:** SP-EDO Study timeline summary of interventions and measurements
Development of the Suicide Prevention Monitor

Instruments like toolkits with checklists, or self-study surveys have been recently developed to promote and guide suicide implementation efforts within mental healthcare (National Confidential Inquiry into Suicide and Homicide by People with Mental Illness, 2017; US Suicide Prevention Resource Center, 2017). Inspired by these examples, a Suicide Prevention Monitor was developed in collaboration with the participating MHIs in three stages.

In the first stage, 113 proposed a prototype that was formatted as a list of policy recommendations on six domains. These six domains were chosen on the level of organizational policy: the general MHI suicide prevention policy; the monitoring and analysis of suicide numbers; learning and care improvement following suicide evaluation; collaborative care arrangements; multi-annual staff training policy and the percentage of clinicians trained to apply suicide prevention guideline recommendations. To stimulate self-reflection and to avoid eliciting defensive responses no predefined criteria for levels of implementation were provided to five pilot MHIs. MHIs were requested to self-rate their levels of implementation on a 1–5 visual analogue scale ranging from no implementation (red zone) to full implementation (green zone). Although this prototype offered a maximum of self-rating flexibility, none of five piloting MHIs proved able to self-rate their level of suicide prevention implementation on any of the domains. MHI representatives indicated that they lacked a frame of reference and invited 113 to add predefined levels of implementation to the Monitor.

In the second stage of development, 113 proposed standard criteria defining levels of implementation on a 1–5 scale. Levels were defined to allow for most MHIs not to score red while keeping ample room for improvement to achieve perfection in suicide prevention and patient safety policies. This six-domain Suicide Prevention Monitor was used during the first two measurements. Notable MHI comments and attitudes towards the Monitor were summarized in a written report at the end of this period. Overall, the Monitor was positively received as a learning tool to support priority setting and provide incentives for improvement.

In the third stage, further development was based on critical feedback about definitions perceived to be unclear in some domains and 6-month measurement periods being too brief to capture change. This feedback resulted in two minor textual alterations to increase clarity in the level of implementation in the domain of training efforts. Apart from these minor alterations, the six domains and the definitions of levels of implementation remained unchanged. In addition, MHIs
suggested that the Monitor focus more directly on suicide prevention practices in daily care. Following this suggestion, 4 additional domains with definitions of levels of implementation were added. These more practice-oriented domains included: recording of suicide attempts in electronic health records; percentage of patients assessed for suicidality in the course of treatment; involvement of family or carers of suicidal patients; safety planning and continuity of care.

**Feedback and dialogue sessions**

To raise the awareness and commitment and to build trusting relationships, 113 change-agents engaged MHIs in feedback and dialogue sessions. They contacted the MHIs every sixth months, with at least one face-to-face visit per year, to reflect on the implementation progress, the Monitor results provided by the organizations, on possible causes for lower scores and on suggestions for improvement activities. In the first year of the program two face-to-face sessions were planned, one at the MHI top leadership (CEO or Board of Directors) level, and the second at the practice level with clinicians of ‘suicide prevention teams’, multidisciplinary teams responsible for evaluating suicides and related policies within the organizations. In the second and third year, one face-to-face visit and one telephone contact was organized. Before each of the face-to-face sessions, a topic list was developed and shared with the organizations. Topics discussed in the very first meeting with MHI CEOs focused on contextual aspects such as the organization’s vision and policies concerning suicide prevention, participation with consumers and carers, and collaboration with partner organizations to guarantee continuity of care for suicidal patients. Topics discussed in subsequent contacts focused on the improvement on each domain of the monitor and on barriers and facilitators for making progress.

**Learning and exchange meetings for MHI professionals**

During the three-year program, three regional and two national learning and exchange meetings for professionals were organized. Experts presented on selected subjects such as continuity of care and the perspectives of consumers or carers. 113 change agents used visually appealing graphical representations of monitor scores as input for discussion on the progress of the implementation and the degree of perceived policy variation. Opportunities were offered to exchange practices and practical ways to overcome barriers and to successfully implement recommendations for guidelines. These positive examples were recorded in professionally produced video clips published on the 113 website.
**Chapter 5**

**Outcome measurement: the Suicide Prevention Monitor**

Table 13 lists the domains of the Suicide Prevention Monitor with definitions of levels of implementation.

**Table 13: Suicide Prevention Monitor**

<table>
<thead>
<tr>
<th>Domains Measurement 1–6</th>
<th>Level of Implementation</th>
</tr>
</thead>
</table>
| 1. Suicide prevention policy on organizational level | 1. No actual suicide prevention policy  
2. Policy < 5 years; contains 0–2 guideline recommendations  
3. Ibid 2 & >3 guideline recommendations  
4. Ibid 3 & reflects patients’ perspective  
5. Ibid 4 & part of general patient safety policy; clear prevention ambition |
| 2. Monitoring suicide numbers | 1. Incomplete monitoring of suicides, no analysis of trends  
2. Complete monitoring, no analysis of trends  
3. Complete monitoring, with analysis of trends & recommendations to improve  
4. Ibid 3 & Improvement plan across service after sharing w. patient advocacy  
5. Ibid 4 & transparent publication of trends, recommendations and plans |
| 3. Evaluation & improvement after suicide | 1. <75% of suicides are evaluated in a multidisciplinary team  
2. >75% evaluated by a multidisciplinary team using a guideline-based method or instrument  
3. Ibid 2 & Significant Others involved & requested to identify issues to improve  
4. Ibid 3 & at least 1 improvement plan completed & shared across service  
5. Ibid 4 & >25% of evaluations is based on extensive root cause analysis |
| 4. Collaborative care | 1. No written collaborative care agreements with regional partners  
2. Written agreements with partners, describing responsibilities  
3. Ibid 2 & including at least 2 healthcare partners (e.g., General Practitioners, Emergency Departments, Addiction Care)  
4. Ibid 3 & including at least 2 partners other than healthcare (e.g., police)  
5. Ibid 4 & including annual evaluation & update of agreement. |
| 5. Multi-annual workforce training plan | 1. There is no plan or a plan in development  
2. Plan is in development but not in effect  
3. Complete, multi-annual plan leading to a competent present workforce  
4. Ibid 3 & Compulsory training for new employees  
5. Ibid 4 & Compulsory booster training for all employees |
| 6. Suicide prevention training of clinicians | 1. <1% of clinicians trained in the last 2 years  
2. 1–10% of clinicians trained in the last 2 years  
3. 11–40% of clinicians trained in the last 2 years  
4. 41–80% of clinicians trained in the last 2 years  
5. 81–100% of clinicians trained in the last 2 years |
### Table 13: Suicide Prevention Monitor (continued)

<table>
<thead>
<tr>
<th>Added Domains Measurement 3–6</th>
<th>Level of Implementation</th>
</tr>
</thead>
</table>
| **7. Recording of suicide attempts in Electronic Health Record (EHR)** | 1. <20% of known attempts are recorded  
2. 21–50% of known attempts are recorded  
3. 51–80% of known attempts  
4. 81–99% of known attempts recorded in a dedicated Electronic Health Record field or by Alert  
5. Ibid 4 & All attempts with serious medical consequences are evaluated |
| **8. Assessment of suicidality** | 1. <20% of all patients assessed in course of treatment  
2. 20–50% of all patients assessed in course of treatment  
3. 51–80% assessed using systematic interview & reported in Electronic Health Record  
4. Ibid 3 & Alert in Electronic Health Record  
5. Ibid 4 100% of patients |
| **9. Involving family/carers** | 1. <20% of suicidal patients has family/carers registered & involved at 1st contact  
2. Ibid 1 20–50%  
3. Ibid 2 51–80% & agreement on active involvement  
4. Ibid 3 81–99%  
5. Ibid 4 100% and actual involvement during entire treatment trajectory |
| **10. Safety planning & Continuity of Care** | 1. Suicidal patients have no safety plan; continuity of care is not guaranteed  
2. Suicidal patients have a safety plan; continuity of care is not guaranteed  
3. Suicidal patient have a safety plan & guaranteed continuity & warm handoffs  
4. Ibid 3: safety plan has prominent place in Electronic Health Record  
5. Ibid 4: carers are actively involved in safety & continuity |

### Data collection and scoring procedure

Every six months, 113 change-agents contacted the contact person (CMO or a commissioned policy advisor supervised by the CMO) of each MHI. Rating of level of implementation was based on consensus between MHI contact persons and two 113 change-agents. Contacts were asked to assess implementation levels as defined in the Monitor tool and to substantiate their assessment with supporting documents. These documents included annual quality and safety reports on the organizational level and on the level of MHI suicide prevention taskforces; policies and reports on training and workforce development; demonstration of electronic health record facilities; signed agreements with healthcare network partners. 113 change-agents rated Monitor domains independently of each other and proposed a consensus rating to the MHI contact person. Scoring issues were regularly discussed in the change-agent team.

The Suicide Prevention Monitor scores were collected twice per year during three years, resulting in a total of six measurements for each participating MHI. During the first year, the Suicide Prevention Monitor consisted of six domains. In the last
two years, four domains were added resulting in a ten-domain Suicide Prevention Monitor.

**Analysis**

To detect changes in the level of implementation on each of the Monitor domains over time, a one-way repeated measures ANOVA was conducted with time (measurement 1/2/3/4/5/6) as within-subjects factor. The associations of Mauchly’s Test of Sphericity indicated that the assumption of sphericity had been violated \((p < 0.001)\), and therefore, a Greenhouse–Geisser correction was used. To investigate if the practice variation between MHIs decreased over time, standard deviations were calculated for each monitor domain to quantify the amount of practice variation between MHIs and the degree of practice variation between MHIs during the first measurement was compared with the practice variation at measurement 6, using a paired samples t-test.

**5.2 Results**

**Implementation of guideline-informed suicide prevention policies**

Table 14 shows the overall progress in suicide prevention practices on each of the Monitor domains. Overall, in three years’ time, significant progress has been made \(F(3.5, 73.4) = 14.6, p < 0.001\). Monitor scores increased on the domains “suicide prevention policy” \(F(2.8, 55.9) = 11.6, p < 0.001\), “monitoring of suicides” \(F(3.0, 60.2) = 18.8, p < 0.001\), “evaluation after suicide” \(F(3.3, 65.4) = 3.1, p = 0.028\) and “training of staff” \(F(2.4, 47) = 12.3, p < 0.001\). Pairwise comparisons using the Bonferroni correction show that improvement was significant in the first till third measurement on the domain “suicide prevention policy” \((p = 0.005)\). On the domain ‘monitoring suicide numbers’ a significant improvement was shown from the first till second measurement \((p < 0.001)\), and on the domain ‘suicide prevention training’ between measurement one and four \((p = 0.033)\). After three assessments, no significant improvements were observed (Table 14).

**Practice variation**

As reported by the one-way repeated measures ANOVA, between-institution effects were significant on each Monitor domain \((p < 0.001)\), demonstrating reported practice variation between MHIs. There was no significant decline in practice variation between measurement one and six \((t(5) = 2.4, p > 0.05)\). The overall progress from the first till sixth measurement varied between institutions from −0.3 (slight deterioration) to 2.1 (improvement). Institutions with lower scores at the
first measurement improved more than institutions with higher first measurement scores (Pearson correlation −0.47, p < 0.05).

Table 14: Mean rating on the Suicide Prevention Monitor in 24 Mental Healthcare organizations, measurement 1–6 (January 2015–June 2017)

<table>
<thead>
<tr>
<th>Measurement</th>
<th>1 Mean (SD)</th>
<th>2 Mean (SD)</th>
<th>3 Mean (SD)</th>
<th>4 Mean (SD)</th>
<th>5 Mean (SD)</th>
<th>6 Mean (SD)</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total mean</td>
<td>2.8 (0.5)</td>
<td>3.3 (0.7)</td>
<td>3.2 (0.6)</td>
<td>3.3 (0.6)</td>
<td>3.4 (0.7)</td>
<td>3.5 (0.6)</td>
<td>14.6 ***</td>
</tr>
<tr>
<td>1. Suicide prevention policy</td>
<td>2.2 (1.2)</td>
<td>3.0 (1.3)</td>
<td>3.3 (1.2)</td>
<td>3.3 (1.2)</td>
<td>3.5 (1.2)</td>
<td>3.8 (0.9)</td>
<td>11.6 ***</td>
</tr>
<tr>
<td>2. Monitoring suicide numbers</td>
<td>2.3 (0.6)</td>
<td>3.3 (0.6)</td>
<td>3.3 (0.6)</td>
<td>3.3 (0.6)</td>
<td>3.4 (0.6)</td>
<td>3.4 (0.6)</td>
<td>18.8 ***</td>
</tr>
<tr>
<td>3. Evaluation/improvement after suicide</td>
<td>2.9 (1.1)</td>
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<td>3.2 (1.4)</td>
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<td>4. Collaborative care external partners</td>
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<td>3.2 (1.2)</td>
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<td>3.6 (1.2)</td>
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<td>5. Multi-annual workforce training plan</td>
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<td>3.4 (1.0)</td>
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<td>3.7 (1.0)</td>
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<td>6. Suicide prevention training</td>
<td>2.7 (1.2)</td>
<td>3.0 (1.2)</td>
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<td>3.9 (1.1)</td>
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<td>7. Recording of suicide attempts in EHR</td>
<td>2.9 (1.0)</td>
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<td>8. Assessment of suicidality</td>
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<td>9. Involving family/carers</td>
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<td>10. Safety planning &amp; continuity of care</td>
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*** p < 0.001, * p < 0.05, higher Means imply better implementation of guidelines

5.3 Discussion

Twenty-four MHIs received an educational outreach approach to improve the quality of their suicide prevention practices. A central element of the approach was the six-monthly rating on the Suicide Prevention Monitor. The observation that pilot MHIs were initially unable to self-rate their levels of implementation illustrates the width of the science-policy/practice gap at the beginning of the intervention. In the course of three years, MHIs improved on four out of ten domains of the Suicide Prevention Monitor: the development of an organizational suicide prevention policy; monitoring and trend-analysis of suicides numbers; evaluations after suicide; and clinician training. With respect to the latter: an impressive training effort has been made. Starting with on average less than 10%, at the end of three years MHIs report that 40–80% of all clinicians have been trained. The non-significant trend towards mandatory entrance and booster training in multi-annual training policies further indicates that MHIs recognize the need for workforce development in order to provide guideline-based suicide prevention care. Improvement in collaborative care with external partners was not significant, with MHIs on average improving between measurements 1–4 but leveling off in the last year. No improvement was measured on the domains pertaining to recording and evaluation of suicide
attempts; routine assessment of suicidality in all patients; safety planning and involvement of relatives and carers.

As the analyses indicate, there is significant variation in the quality of service policies and practices between MHIs. Considering that MHIs generally provide the same kind of services to the same categories of patients, this suggests that in The Netherlands similar patients at risk of suicide may receive different qualities of suicide prevention care, dependent on the providing MHI. In the course of the intervention period, MHIs with lower baseline scores improved faster than MHIs with higher baseline scores. However, MHI mean Monitor score variance was unchanged at measurement 6. Chances of patients to be asked about suicidality in the course of treatment, or to be treated by a clinician trained in guideline recommendations varied between 10% and 80%. This could imply that in the Netherlands still many patients at risk of suicide are not identified, are not offered a safety planning intervention, and receive no specific interventions to attenuate their suicidal behaviors.

As trusting working relations developed, change-agents observed MHI contact persons to become growingly self-critical, with an increased sense of ownership of the need for implementation. This may in part explain the finding that the rate of improvement leveled off in time. Another explanation may be that, during the study period, professionals in many MHIs had to function under substantial pressure from increased regulatory and production requirements that were imposed by financiers. In the course of the study, the balance in the trade-off between production goals and patient safety goals may have shifted back to production (Amalberti, Auroy, Berwick & Barach, 2016). A final explanation of the rate of improvement leveling off in the course of time may be derived from the action research literature. This suggests a “valley” phase of hard work (“uphill battle”) that precedes a “victory phase” in which goals will be attained that were collaboratively developed in the high-energy initial “vision phase” (Mittmann et al., 2015).

As the change-agents reported in their feedback reports, the Suicide Prevention Monitor was generally positively received. The 10 Monitor domains became areas priority setting for local quality improvement activities in all participant MHIs. The opportunity to compare Monitor scores between MHIs aroused curiosity about the performance of other organizations. During exchange meetings, differences between MHI Monitor scores were explored in an atmosphere of learning and mutual support. Towards the end of the program, the instrument was used with an increased sense of ownership and accountability. It is plausible that typical
elements of educational outreach as described by Soumerai and Avorn (Soumerai & Avorn, 1990) have contributed to this positive attitudinal shift towards improving the care in order to prevent more suicides. These elements include establishing credibility through a respected organizational identity, referencing authoritative and unbiased sources of information, presenting both sides of controversial issues, stimulating active participation in educational interactions, using concise graphic educational materials, highlighting and repeating the essential messages, and providing positive reinforcement of improved practices in follow-up visits. In addition, the National Strategy as a whole evoked and received positive media attention. In six regions Suicide Prevention Action Network communities were formed, using the European Alliance Against Depression (EAAD) strategy that includes improving treatment of depression and suicidality in general practice, building chains of care with MHIs and a media campaign to reduce stigma and to stimulate help-seeking (Hegerl, Rummel-Kluge, Värnik, Arensman & Koburger, 2013; Gilissen et al., 2017). Finally, a number of regions and MHIs declared publicly to pursue a Zero Suicide ambition. These developments may have contributed to raised awareness and an increased sense of urgency and responsibility in MHIs.

Our findings of six out of ten recommendations not improving in three years, and practice variation still marked across the country, are in line with previous research. It may take years to improve the quality of care for patients at risk of suicide. However, considering the devastating impact of suicide there is little time to lose. Rational interventions like training, education and monitoring are likely insufficient to bring about the change in culture and mindset needed to significantly improve the safety and the quality of care for suicidal patients on a national scale, within a decade. More is needed, starting with the establishment of a safer and just culture of improvement and learning (The Lancet, 2016) that allows for the pursuit of an ambitious, inspirational goal that clearly expresses that suicide is not an acceptable outcome of healthcare (Covington et al., 2011; Mokkenstorm, Kerkhof, Smit & Beekman, 2018).

The results of this study have to be interpreted against the backdrop of some limitations of this research. This study did not objectively assess levels of implementation by investigating actual daily practice, but assessed this based on consensus rating by MHIs and 113 change-agents on domains that are likely to be of influence to daily practice. Because of its design lacking a control condition, it is not possible to make causal inferences between the educational outreach efforts and the implementation levels in MHIs.
An important limitation is due to the nature of action research, with the observer and the observed interacting around the measurement on a domain they both have interests in. Although action research enables measurement of suicide prevention guideline implementation that would otherwise be hard, if not impossible, this methodology may entail a risk of observer bias. With suicide being a sensitive topic, this may have skewed MHI self-rating towards more positive scores. Still, not all domains improved and there was no improvement on the domains that MHIs themselves had suggested to monitor.

At this early stage of implementation, the Monitor focuses on policies and practices that were considered to create basic conditions for MHI suicide prevention care quality improvement. A limitation of this approach is that the Monitor does not cover all PGSB guideline recommendations; nor important evidence-based policies that are recommended from a Zero Suicide perspective (Mokkenstorm et al., 2018) (US Suicide Prevention Resource Centre, 2018; The Joint Commission, 2016), or that can be derived from recent research (e.g., the UK National Inquiry into Suicide and Homicide (National Confidential Inquiry into Suicide and Homicide by People with Mental Illness, 2017) and a meta-analysis of treatment modalities (Meerwijk et al., 2016). The Monitor did not assess the implementation policies regarding the use of suicide-specific treatment modalities; evidence-based treatment of depression; availability of addiction care; the removal of ligature points; absconding and no-show; timelines for the assessment of suicidality and for safety planning. Future editions of the Monitor should assess these quality indicators. To this end, a Suicide Prevention Team Monitor is now being piloted that assesses these quality indicators on the level of care delivered by MHI teams.

To our knowledge this paper is the first to report on the impact of systematic, national efforts to promote suicide prevention guideline implementation in the policies of MHIs. An important strength of this study is that it reports on the assessment of guideline implementation in a very sensitive area that may affect the quality of care for over 500,000 patients with severe mental illness. Collaborative development and scoring of the Monitor proved to be acceptable to MHIs and feasible for 113. Within the methodological constraints of self-rating and action research, the Monitor outcomes provided important insights to guide further efforts. A final important finding is that it is feasible to engage MHIs nationwide in a constructive dialogue about their suicide prevention policies and practices. Once started, no MHI withdrew. This finding may be relevant to consider for current and future national suicide prevention strategies.
5.4 Future developments

The National Suicide Prevention Strategy being continued, SP-EDO will continue with change-agents visiting MHIs and collaboratively scoring the Monitor for the next three years. New educational materials like e-learning and info-graphics will be developed to support learning and exchange meetings. Recently, 14 MHIs have joined forces to take quality and safety improvement to a next level. Together they formed the Suicide Prevention Action Network in Healthcare (SUPRANET Care) (Setkowski et al., 2018) with a Zero Suicide mission statement: to provide healthcare so good that no patient dies alone and in despair by suicide. In this confidential network, patient and practice data relevant for suicide prevention are shared and analyzed for meaningful trends. This allows for data-driven learning and improvement based on benchmark comparison and the exchange of good clinical practices and implementation strategies. SUPRANET Care will be supported by 113 change-agents and the SP-EDO project lead. As a result of this development, sector organization AMHAC-NL expressed great interest in promoting suicide prevention among its members, stimulating them to participate in SUPRANET Care and planning to spearhead suicide prevention in their strategy.

5.5 Conclusion

During the National Suicide Prevention Strategy 2014–2017, the level of implementation of four guideline-informed suicide prevention policies in 24 specialist mental healthcare institutions in the Netherlands improved significantly. Six other suicide prevention policies and practices did not significantly improve. With regard to suicide prevention policies and practices, there is still marked variation between MHIs in the country.
Chapter 5

References


Chapter 5


Suicide Prevention Guideline Implementation in Specialist Mental Healthcare Institutions


Chapter 5


Is it rational to pursue zero suicides among patients in health care?

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Abstract

Suicide prevention is a major health care responsibility in need of new perspectives. This chapter reviews Zero Suicide, an emerging approach to suicide prevention that embraces the aspirational goal of zero suicides among patients treated in health care systems or organizations. Zero Suicide is gaining international momentum while at the same time evoking objections and concerns. Fundamental to Zero Suicide is a multilevel system view on suicide prevention, with three core elements: a direct approach to suicidal behaviors; continual improvement of the quality and safety of care processes; and an organizational commitment to the aspirational goal of zero suicides. The rationale and evidence for these components are clarified and discussed against the backdrop of concerns and objections that focus on possible undesired consequences of the pursuit of zero suicide, in particular for clinicians and for those who are bereaved by suicide. It is concluded that it is rational to pursue zero suicides as an aspirational goal, provided the journey toward zero suicides is undertaken in a systemic and sustained manner, in a way that professionals feel supported, empowered, and protected against blame and inappropriate guilt.
Introduction

Prevention of suicide and suicidal behaviors is a major health care responsibility in need of new perspectives. Compared to other major health problems like HIV/AIDS, coronary heart disease or leukemia, little progress has been made in reducing morbidity and mortality due to suicidal behavior (Insel, 2014). The annual US suicides number increased by 24% between 1999 and 2014 (Curtin, Warner & Hedegaard, 2016). In the Netherlands, where 39% of all people who die by suicide were receiving specialist mental health care, this number increased by 38% between 2007 and 2015 (CBS, 2016).

While it is safe to say that health care helps to prevent many suicides, improving its quality may prevent many more. Routine care for patients at risk of suicide still is highly variable and often far from perfect. Clinical audits, root cause analyses after suicides and service user reports show common themes directly pertaining to discontinuities and lapses in elementary care processes (Burgess, Pirkis, Morton & Croke, 2000; Taylor, Hawton, Fortune & Kapur, 2009; Huisman, Robben & Kerkhof, 2009; Renaud et al., 2014; Gillies, Chicop & O’Halloran, 2015). In clinical practice many workers lack specific training to work with suicidal patients (e.g. Castelli Dransart, Heeb, Gulfi & Gutjahr; Awenat et al., 2017). Ready implementation of guideline best practices and recommendations remains problematic (Schmitz et al., 2012; Cooper et al., 2013; De Beurs et al., 2016). In the face of the catastrophic impact of suicide and the lack of progress in the past decades, a transformational approach to suicide prevention in healthcare is warranted.

Zero Suicide is an emergent approach to suicide prevention in health care (Hampton, 2010; Hogan & Goldstein Grumet, 2016; Hogan, 2016; SPRC, 2016). Zero Suicide is driven by the aspirational view of a future in which no one dies alone and in despair by suicide as a result of excellent healthcare; and by the conviction that by acting upon this aspiration in a committed, systemic and sustained manner, many and perhaps most suicides among patients in healthcare can be prevented. This approach is gaining momentum internationally while at the same time evoking strong concerns. With this paper we aim to clarify the background and core elements that constitute Zero Suicide reviewing its rationale and evidence base against the backdrop of the concerns and objections it has evoked. Discussing its potential to serve suicide prevention, we will conclude that –under conditions- it is rational to pursue the aspirational goal of zero suicides in health care.
6.1 Background and development

In 2011 the U.S. National Action Alliance for Suicide Prevention (NAASP, Covington et al., 2011) published a set of recommendations for health care systems based on the analysis of examples of successful suicide prevention. This analysis focused on the US Air force multi-level suicide prevention program leading to 33% reduction of suicide (Knox et al., 2003; Knox et al., 2010) and on the Henry Ford Health System Perfect Depression Care program (HFHS) leading to ten consecutive quarters of no reported suicide deaths (Coffey, 2006, 2007; Coffey, Coffey & Ahmedani, 2013; Hampton, 2010; Ahmedani, Coffey & Coffey, 2013). Observing that profound cultural and systems change provide the underpinnings of these effective approaches, the NAASP identified three critical success factors: 1) suicide specific, evidence-based practices; 2) reliably delivered by well managed whole systems of care that are continuously improving service access, -quality and -safety; that are 3) firmly rooted in core values reflecting a service culture that no longer accepts suicide as an outcome.

By putting suicide prevention in a framework of entire health care systems, the NAASP founded Zero Suicide as outlined online by US Suicide Prevention Research Center (SPRC, 2016). Implementation of Zero Suicide best practices is recommended by the US Office of the Surgeon General (2012) and the Joint Commission (2016). The International Association of Suicide Prevention endorsed the preparation of the International Zero Suicide Declaration (IIMHL, 2016) that has inspired organizations to its implementation in Canada, Australia, New Zealand, the UK and the Netherlands.

6.2 Concerns

In response to these developments colleagues have argued that although laudable and appealing, the pursuit of zero suicides is irrational and inappropriate because it is unrealistic and may be distressing or upsetting to people directly involved. Coyne (2016) points at the absence of “extraordinary evidence” to support the “extraordinary claim” that a goal of zero suicides can be achieved and cautions that the appealing goal of zero suicides can be misused to serve other interests (e.g. political, religious, commercial; or organizational window dressing) than suicide prevention per se. Smith et al. (2015) argue that the pursuit of zero suicides will evoke further “dysregulation” in clinicians working with people at risk of suicide. They suppose this will make matters worse with clinicians having more negative feelings about patients, using an inappropriate narrow focus on di-
agnosis and risk assessment, and making more ad-hoc, abrupt, and inconsistent decisions. They propose to set the more realistic goal of “suicide risk mitigation”. Erlich (2016) proposes to use the label “Envision Zero” arguing that “Zero Suicide” would enhance the already problematic guilt of those who are bereaved as a result of suicide including clinicians and caregivers. Hawton (2016) comments that Zero Suicide has been introduced in the UK in various forms without a clear underlying strategy; and that it has become a question of using the label rather than implementing a comprehensive suicide prevention program. Urging caution about the enthusiasm for Zero Suicide policies, he suggests to use words like “optimal suicide prevention” to promote action in the field.

6.3 Multi-level systems approach

Clearly Zero Suicide is an inspirational approach. But given the concerns and objections it has evoked: is it also a rational approach? Is it even remotely realistic, considering the limited resources in healthcare and the dearth of evidence-based treatment of suicidal behaviors? How could it be acceptable for practitioners who face a current reality of losing patients to suicide? To start answering these questions, it is important to point out that the goal of zero suicides pertains to the distinct population of people receiving health care. Furthermore, that Zero Suicide entails a multi-level systems approach to suicide prevention that considers patient safety, staff safety and suicide prevention to be organizational responsibilities. This approach reflects Reasons’ “systems” view on safety that moves away from: “a person approach that focuses on the errors of individuals, blaming them for forgetfulness, inattention, or moral weakness” (Reason, 2000). A systems approach on safety concentrates on the conditions under which individuals (in the case of suicide prevention: staff and patients) function, and tries to build protective layers to avert or prevent unsafe behaviors, or mitigate their harmful effects. No single layer is perfectly capable of preventing all accidents to happen at all times. Like slices of Swiss cheese, protective layers are lacunar. Accidents occur when the holes in the layers momentarily align. Thus, to achieve safety, multiple layers are required (Figure 6).
For the purpose of suicide prevention, a variety of layers of defenses can be derived from systematic reviews of suicide prevention strategies (Zalsman et al. 2016), practice guidelines (e.g. van Hemert et al., 2016) and multi-level community suicide prevention approaches like OSPI (Hegerl et al., 2009; Feltz-Cornelis et al., 2011). In addition to effective and safe treatment, layers of defenses may involve empowerment of people at risk for suicide, including helplines, self-help and safety-planning; collaboration with relatives and gatekeepers; and restriction of access to lethal means. In addition, protective layers on the organizational level pertain to e.g. workflow and staff capacity; the availability of clear instructions, procedures and communication lines; levels of training and supervision of the workforce; accessibility and continuity of care; and supportive ICT and electronic health records.

### 6.4 Core components

Following the NAASP critical success factors, Zero Suicide core components can be described at three levels (Figure 7). At the practice level: a direct approach of identifying suicidal behavior and treating it as a distinct syndrome using specific, targeted best practices. At the process level: quality and safety improvement to provide highly accessible, reliable and continuous care processes and routines. And at the organizational level: a safety culture with strong leadership and a system-wide commitment to the aspirational “stretch-goal” of zero suicides. These core components will be reviewed and discussed in the light of available evidence.
6.5 Direct approach

Zero Suicide views suicidality as a distinct clinical process or syndrome that requires proactive detection, careful exploration and specific interventions that directly target suicidal behaviors. This direct approach starts at the entrance of every care pathway, where all patients are screened on past and present suicidal behavior with subsequent full assessment for patients screening positive (Boudreaux & Horowitz, 2014). During treatment screening is repeated systematically to monitor treatment effects and to capture the occurrence or recurrence of suicidal behaviors. To every patient at risk, direct interventions are offered that address suicidal thoughts and behaviors during treatment and aim at adaptive coping (e.g. DBT: Linehan et al., 2006; CBT: Brown et al., 2005; CAMS: Jobes, 2012; ASSIP: Gysin-Maillart et al., 2016); risk mitigation by safety- or crisis response planning (Stanley & Brown, 2012; Bryan et al., 2017) and counseling to reduce access to lethal means (e.g. CALM: Johnson et al., 2011). These suicide specific interventions are offered in addition to optimal treatment of co-existing mental health problems that elevate the risk of suicide.

While Zalsman et al. (2016) state that there is insufficient evidence to justify the cost of expensive screening procedures Coffey (2015) showed that screening can
be useful and feasible provided it is embedded in a reliable chain of care where follow-up on screening outcomes (e.g. referral to a specialist setting) is guaranteed. The practice of addressing suicidal thoughts and behaviors directly during treatment rather than indirectly via the treatment of “underlying” mental illness or processes only is endorsed by recent strong evidence. Based on a systematic review and meta-analysis comparing the effects of direct interventions and indirect approaches Meerwijk et al. (2016) showed direct interventions to lead to earlier effects than indirect approaches, with a 1.5 lower likelihood of patients dying by suicide or attempting suicide during treatment.

6.6 Quality and safety improvement

The second component of Zero Suicide is quality and safety improvement leading to the provision of reliable, continuous and evidence-based care. This involves the implementation of guidelines and best practices; service redesign involving service users; increasing service access (face to face and online); proactive planning of critical components of care (i.e. intake, screening, assessment, indication, medication, psychosocial therapies); collaboration between staff and patients’ relatives; and organizing continuity of care in critical phases of (i.e. transfers, post-discharge). Patients’ no-show or withdrawal from care is actively responded upon. Critical process indicator data are monitored and used to improve workflows, patient safety- and treatment outcomes (Ahmedani, Coffey & Coffey, 2013). Since quality and safety of care rests on the competence and the confidence of the people that deliver it, all workers are trained to acquire the necessary competences and skills to work with suicidal patients.

Recent quantitative evidence underscores the importance of guideline implementation and the quality of organizations for suicide prevention within health care services. In a national before-and-after analysis, while et al. (2012) showed reductions in suicide rates among persons in care in the UK, associated with the implementation of seven, of a total of nine, selected service guideline recommendations. Kapur et al. (2016) demonstrated 20-30% reduction of suicide rates in all mental health services in England associated with each of 16 specific service improvements and implementation of guideline recommendations pertaining to community services, staff training, guideline implementation and to policies aimed at minimizing the effects of discontinuities in care. In addition, this study demonstrated the importance of the organizational factors. As an example, low non-medical staff turnover in an organization enhanced the preventive effects
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of implemented suicide prevention best practices. Thus, suicide prevention outcomes in mental health services are related to both the nature of interventions offered as well as to the quality of the organization with which they are offered.

6.7 Safety culture aimed at zero suicides

The third component is a safety culture with a system-wide commitment to the “stretch-goal” of zero suicides within organizations. This means a transformation of a mindset of resigned acceptance of suicide into a mindset of active prevention of suicide as an outcome of treatment. Instead of asking how not to have more suicides than usual, a Zero Suicide organization challenges itself to have no suicides at all. In this respect Zero Suicide is member of the “zero accident vision” family of safety approaches in organizations and industries that require very high levels of safety, like aviation, construction and the automotive industry (Zwetsloot et al., 2013). Zero Suicide is in accordance with expert views on the imperative to improve patient safety (e.g. Leape et al., 2009; Dixon-Woods et al., 2013; Berwick et al., 2013) that express the need for cultural change, clear goal setting and the abandon of blame as an instrument to secure safety.

Transformational approaches aiming at zero preventable harm in very large healthcare organizations have shown improvement of quality and reduction of mortality and costs within a decade after implementation (Nanji, Ferris, Torchiana & Meyer, 2013). As an example, Ascension Health, the third largest US health care provider, reported a 21% reduction of mortality due among their patients within three years after initiation of their “journey towards zero preventable injuries or deaths” (Pryor et al., 2011; Hilliard et al. 2012). Likewise, within two years the Nationwide Children’s Hospital Zero Hero program resulted in 83% reduction of serious safety events; 53% reduction of preventable harm; 25% reduction in mortality rate and 22% reduction in estimated harm-related hospital costs (Brilli et al., 2013). These examples illustrate that this level of ambition serves well to rapidly improve and enhance patient safety as well as staff safety: “Zero” strategies lead not to more litigation, but less.

6.8 Discussion

As presented, Zero Suicide aims for a paradigm and cultural shift in health care organizations: from resigned acceptance of suicide to active prevention of suicides.
It draws health care suicide prevention into the realms of safety science, with an assertive stance towards quality improvement and a commitment to patient and staff safety. Zero Suicide is driven by aspiration, but its core components are rational. Although the available evidence is encouraging, it is clear that there are many unresolved questions and that the evidence base should be strengthened. With Coffey (2006) reporting significant positive financial effects there is still not enough of quantitative evidence to conclude that the costs of Zero Suicide implementation are outweighed by its benefits. Equally important is the question how Zero Suicide would develop in organizations with a less defined leadership culture and organizational structure than the US Air force and HFHS. Thus, program evaluation and implementation studies in different health care settings and systems that include health-economic analyses are an important next step.

Touching upon the issue of the preventability of suicide, the goal and label “Zero Suicide” evokes skepticism and strong concerns. This can be understood realizing that Zero Suicide is in essence a cultural intervention that affects values, habits and interests. The current pessimism about the preventability of some suicides provides consolation for society, for health care systems and for the bereaved, including clinicians. The “promise” of Zero Suicide, its presumption that most if not all suicides can be prevented by excellent healthcare, offsets a coping style of learned helplessness in healthcare that is fueled by shame, guilt and fear of blame (Awenat et al., 2017). In this respect the concerns expressed by Hawton and Smith et al. are justified. Haphazard use of the “Zero Suicide” label without the implementation of its core components and its system approach would be inappropriate and unjust. This would add to already problematic levels of dysregulation in “sick” health care systems (Reason, Carthey & De Leval, 2001) that are prone to remain unsafe due to a tendency to blame front line workers and deny systemic errors. The pursuit of zero suicides among patients in healthcare is only rational in an integral manner that involves practices, processes and organizational culture across entire health care systems.

Most, if not all health care workers would agree to have the mindset that no patient should die alone and in despair by suicide. To overcome reluctance to adopt zero suicides as an aspirational goal it is of paramount importance that health care leaders empower staff to learn and improve in a genuinely blame-free working environment: patient safety and staff safety go hand in hand. Still, in some contexts the words “Zero Suicide” may be too bold or too provocative to be engaging. Perhaps in these instances suicide prevention may initially be better served with
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an approach called the “Zero Suicide Mindset”, “Towards Zero Suicide” or “Every Life Counts.”

Irrespective of labels or semantics, health care suicide prevention is about creating safeguards with patients and their relatives that promote their recovery, that help them have a life worth living, and protect them from self-harm when they are unable to protect themselves. It will be a long road to achieve this always, for each and every one of our patients. Setting out on this journey, we feel that the goal of zero suicides provides the clarity to direct us; the ambition to help us make stride and the confidence to encourage us as we proceed along the way. Thus, it is rational to pursue the aspirational goal of zero suicides in health care.
Chapter 6

References


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Chapter 6


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Part III
7

General Discussion
This thesis provides a collection of studies into healthcare suicide prevention strategies developed and implemented by 113 Suicide Prevention to improve the quality of care for persons at risk of suicide. In this chapter we will summarize and discuss our main findings with an eye at potential future strategies to enhance health care suicide prevention. Basic assumption of this thesis is that there is a positive relationship between the quality of health care and the ability of health care to prevent suicide. The research in this thesis does not test this assumption, but focuses at the progress and process of implementation of two health care quality improvement strategies. The first strategy is the implementation of online suicide prevention interventions that can be accessed anonymously, 24x7 and free of charge via a national platform www.113.nl. The second strategy is implementation of evidence-based suicide prevention policies and practices in specialist mental health care.

Part I of this thesis (Chapters 2-4) focuses on the first strategy. Chapter 2 describes the Dutch online suicide prevention platform 113 Suicide Prevention in its first three years since its launch in 2010 introducing its general background; its organization and principles; and its key services. Data are presented on the characteristics of 113 service users and their usage of different services, as well as preliminary outcomes of the crisis chat service. Chapter 3 presents a study of the reach and outcomes the 113 crisis chat service in 2012. Chat, chat visitor characteristics and changes in visitors’ emotional states were studied, applying methods and instruments that enable comparison with crisis telephone calls to U.S. 1-800-SUICIDE helpline centers. Chapter 4 offers a study of the reach, perceived benefits and potential harmful effects of users of the online peer support forum that was offered to visitors of the 113 website.

Part II investigates the second strategy. Chapter 5 offers an implementation study of changes in levels of suicide prevention guideline implementation in and practice variation between, 24 specialist Dutch mental health institutes (MHIs) measured in the course a Suicide Prevention Educational Outreach (SP-EDO) implementation strategy that 113 co-created with participant MHIs.

Chapter 6 presents a narrative review of the Zero Suicide approach to suicide prevention in mental healthcare that embraces the aspirational goal of zero suicides among patients treated in health care systems or organizations. Zero Suicide core components and their evidence base are clarified and discussed to answer the question: is it rational to pursue zero suicides among patients in healthcare?
Chapter 7

In the next paragraphs main findings of our studies are presented and evaluated.

7.1 Implementation of the 113 Online platform

Main findings
Findings presented in Chapter 2 demonstrate the acceptability and accessibility of a wide range of online preventive and therapeutic interventions offered to a population of (often severely) suicidal individuals. An estimated 60% of these help seekers are not in treatment by regular mental health care. Help seekers that do receive regular mental care often express unmet needs and dissatisfaction with their treatment or their therapist. Our study indicates the potential of the 113 platform to provide effective and safe online care to this population.

Chapter 3 zooms in on one of the services within the 113 platform: the crisis chat service. In line with findings presented in Chapter 2 this service was shown to reach a population of suicidal people with multiple (mental health) problems. In comparison to US telephone helpline seekers and outcomes, 113 help seekers report more and more severe suicidality while the outcomes of 113 chats appear similar to US telephone helplines. A substantial number of visitors (36-49%) were observed to be in a better emotional state at the end of the chat, with marked improvement occurring in 7-10% and marked deterioration in less than 1%. As an unexpected finding limiting the interpretation of results, we found that the first and last ten minutes of chats did not contain substantial information pertaining to suicidality.

Chapter 4 examines the potential benefits and risks of another service offered via the 113 platform: the peer support forum. This forum appears to function as a meeting place for a small group of individuals with chronic, severe suicidality of which 12% visited the forum to find effective suicide methods and 3% to find a suicide partner. Peer support and anonymity were the most mentioned benefits, whereas no personal contacts and few reactions to postings were perceived as limitations. Of the forum users who had visited the forum more than once 35% reported feeling better right after use and 12% reported feeling worse.

Evaluation
As our research shows, the 113 Suicide Prevention platform serves as a much needed and used alternative gateway to care for suicidal individuals struggling with multiple and often severe (mental health) problems, that would otherwise shy
away from help; and as a supplement therapeutic environment that meets unmet needs of patients in regular, offline mental healthcare.

In contrast to most offline mental healthcare services, the online services 113 offers can be accessed anonymously, 24x7, and free of charge. In theory this improves the access to- and timeliness of suicide prevention care. In practice however, this improvement can only be realized with the capacity needed to answer the demand for these services. Insufficient capacity may even jeopardize visitor safety, as long waiting times frustrate visitors in crisis and may reinforce them in the belief that nothing could help them. Not being answered may even fuel suicidality by adding to feelings of perceived burdensomeness and thwarted belongingness that are determinants of suicidal behavior (Van Orden et al., 2010).

This risk of not being able to answer demand became apparent in the first three years, as 113 brand awareness among the general public grew from 1% to 2%. Root to the capacity problem was the innovative and anonymous nature of the 113 services that preclude healthcare insurance companies from funding, leaving it up to the Dutch Department of Healthcare to offer 113 grants to provide its services. It took several years to overcome this financial implementation barrier. In this period the government grew convinced of the added value and the necessity of the 113 platform and found ways to increase funding. The extra capacity enabled 113 to increase brand awareness and thus reach more people at risk of suicide. Currently 40% of Dutch inhabitants recognize 113 as a suicide prevention organization. The rise in brand awareness was achieved by a combination of measures. First 113 changed its brand name from 113Online to 113 Suicide Prevention. Second: the 113 website and user interface were improved to better engage and guide website visitors; and to optimize it for better search engine rankings and social media presence. Third 113 released online advertisements and a national campaign to increase help seeking and stimulate people who are concerned about someone’s suicidality to ask about it. Finally, as a result of the promotion media guidelines for responsible reporting, an increasing number of national newspapers, television and radio programs refer to 113 at the end of coverage of suicide related subjects.

As expected, the increased brand awareness greatly increased the daily number of visits to the site from an average 463 visits by 312 unique visitors in 2013, to 2,153 site visits by 1,688 unique visitors in 2018. Subsequently demand for 113 crisis services increased more than fourfold in this period. This ongoing increase in demand stimulates 113 to find ways to better use its capacity. The website now contains more self-help information in text and video. Available resources are
now used more efficiently by better planning, better management and a change in workflows. By using a five-hour time difference, evening and night shifts are strengthened with licensed, Dutch speaking psychologists who live and work in Surinam, a former Dutch colony. Especially the introduction of triage methods has improved the access to 113 services, leading to lower crisis call non-response rates of 0%-16% of calls. Non-response varies, dependent on hard to predict demand, and now occurs rarely between 9 AM and 6 PM, and most often in the middle of the night.

For help organizations like 113 the challenge is to realize maximum prevention impact with limited resources. As a guiding principle 113 uses a simple formula to estimate (potential) prevention impact of a service: Impact is the product of the reach of a service, and the average, or expected, effect of this service (Impact=Reach*Effect). Dividing impact by costs or staff capacity gives a rough estimate to compare cost effectiveness of different services. While the reach of online services like the crisis chat is high, it remains the question to what extent this service has a preventive effect. Our findings are supportive of a direct positive effect on suicidal visitors’ emotional states. Still, in the majority of cases no direct positive effect could be detected; and sporadically chat visitors’ emotional states appear to have deteriorated in the course of a chat session. These findings raise two interrelated questions for further service development and research. First question is how to improve the potential to effectively improve the emotional state, alleviate suicidality and avoid negative outcomes in more visitors? The second question is: how do positive, neutral or negative direct effects on visitors emotional states translate into longer term outcomes and suicide prevention?

Essentially the first question refers to universal quality and safety goals that every healthcare service should aim for: how to improve the effectivity of our interventions and reduce (the risk of) harm for the patients we serve? (Institute of Medicine, 2001). 113 aimed to improve the effectivity and safety of the crisis chat by reconsidering its Solution Focused approach; developing and implementing protocols that focus first and foremost on suicidality and better structure the interaction with help seekers; and by enhancing staff and volunteers’ training, quality control, and supervision. As noted above workflows were redesigned to serve more visitors timely and avoid potentially harmful waiting. These developments illustrate the power of research in promoting healthcare service quality and safety. Measurement of process and outcome variables confronted the highly motivated 113 staff and volunteers with a simple truth: best intentions are no guarantee for
the best consequences. Without the crisis chat study it is conceivable that 113 would have persisted in suboptimal ways of working for years.

To answer questions regarding the effectivity and safety of its services, 113 established a “Living Lab” where researchers and mental health professionals collaborate to assess and study outcomes of the 113 services as these are continually developed and adapted. The forum study presented is one of the first studies that results from this collaboration. It started with mental health professionals that questioned the efficiency, effectivity and safety of the moderated peer support forum for suicidal visitors of the 113 website. 113 researchers translated this question into a pragmatic study design. This design led to sobering findings: the forum had a relatively low reach compared to other services that reach thousands of help seekers annually; it offers direct benefit to its users, but also exposes them to risks that are hard to avoid or control by labor intensive moderation. Following the Impact=Reach*Effect rule it was decided to close the 113 forum in its current form. The capacity involved was used for other services and to develop new ones, like the smartphone apps 113 released to support safety planning or gatekeeping; and educational interventions tailored to support 12-16-year-old visitors.

This second question- how do changes in visitors’emotional states translate into suicide prevention effects- is not only relevant to provide more evidence on the effectiveness and safety of the online services that 113 provides. It is also relevant but also to study the dynamics of recovery from crisis and of suicidality in relationship to interventions offered. At first glance it seems reasonable to assume that positive changes in emotional state predict better suicide prevention outcomes. More positive emotional states indicate that the crisis chat succeeds in stabilizing help seekers and motivates them to seek help. On the other hand, clinical experience tells that the path towards recovery may require the expression of anger, anxiety, sadness or suicidality. “Negative” emotional states do occur in effective therapy sessions. This is why patients so often enter the therapist’s office with a composed smile and leave with tears still in their eyes. In this sense a linear relationship between “improved” emotional state and positive long term outcomes like suicide prevention can be questioned.

Innovative sampling methods like smartphone Ecological Momentary Assessment enable tracking emotional states, cognitions and suicidality as these vary in varying contexts during the day (Kleiman et al., 2017; Nuij et al., 2018). Studying these fluctuations Kleiman et al. (2017) found that suicidal ideation varies dramatically from hour to hour in the course of a day. In addition they found that hopeless-
ness, burdensomeness, and loneliness also varied considerably. However these well-known risk factors for suicidal ideation were limited in predicting short-term change in suicidal ideation. Momentaneous mood states associated with suicidal behaviors were shown to display a saw-tooth course during the day. An important implication of these findings is that single data points cannot be used to base prediction upon.

As partner within the Suicide Research Netherlands (SURE-NL) consortium, 113 collaborates with VU University researchers in the Continuous Assessment and Prevention (CASPAR) project (2017-2021) (Nuij et al., 2018). In this project an interactive smartphone app will be used to combine ecological momentary assessment (EMA) with safety planning (Stanley & Brown, 2012). This creates an opportunity to disseminate safety planning support among crisis chat visitors (or other target audiences) while at the same time sample longitudinal data to track fluctuations and of their suicidality in time. Application of the CASPAR app technology may thus be important in answering the questions regarding the course of suicidality in relation to risk and protective factors; interventions and contextual events.

7.2 Implementation of suicide prevention policies and practices in mental healthcare

Main findings
Chapter 5 and 6 focus at the implementation of evidence-based suicide prevention policies and practices in specialist mental healthcare. Chapter 5 reports on the role of 113 in the implementation of the national suicide prevention guideline in Dutch specialist mental healthcare institutions. 113 developed a multifaceted strategy that combines two implementation approaches that emphasize improvement by learning: educational outreach and action research. Key components of this Suicide Prevention Educational Outreach (SP-EDO) strategy were: establishment of a working relation between MHI representatives and 113 change agents; development and scoring of a Suicide Prevention Monitor that assesses levels of implementation of ten guideline recommendations; feedback and dialogue sessions about the process and progress of implementation; and learning and exchange meetings for MHI professionals. The level of implementation changed significantly in four out of ten recommendations and marked practice variation between MHIs across the country was still present.
Chapter 6 examines the rationale behind Zero Suicide, an emerging approach to healthcare suicide prevention that is gaining momentum worldwide. Fundamental to Zero Suicide is a multilevel system view on suicide prevention, with three core elements: a direct approach to suicidal behaviors; continuous improvement of the quality and safety of care processes; and an organizational commitment to the aspirational goal of zero suicides. These components are clarified and discussed against the backdrop of concerns and objections that focus on possible undesired consequences of the pursuit of zero suicide, in particular for clinicians and for those who are bereaved by suicide. Based on the available evidence we conclude that it is rational to pursue zero suicides as an aspirational goal, provided the journey toward zero suicides is undertaken in a systemic and sustained manner, in a way that professionals feel supported, empowered, and protected against blame and inappropriate guilt.

Evaluation
As Chapter 5 shows, within a timeframe of three years the SP-EDO approach appeared insufficient to significantly help improve more than four out of ten evidence-based suicide prevention policies and practices in the 24 MHIs studied. Policies that do not affect day-to-day practice appear to be easier to improve than practices in daily routine like systematic assessment of suicidality in the course of treatment. This may indicate that the SP-EDO approach did not reach the work floor enough to change clinical routines.

On the positive side, the SP-EDO approach enabled 113 to engage and motivate the field to contribute to the National Suicide Prevention Strategy. Initially skeptical MHI leaders are now more aware of the urgency and of tangible opportunities to improve the quality of their suicide prevention care. They experienced that measurement can be used to learn and improve their suicide prevention efforts without a risk of being shamed and blamed. Given the sensitive nature of suicide this is an important achievement, that proved to be a stepping-stone for further collaboration in a Suicide Prevention Action Network in healthcare (SUPRANET Care) (Setkowski et al., 2018). SUPRANET Care aims at improving quality and safety of care to enhance suicide prevention by collecting standardized process, practice and suicide (attempt) outcome data; providing benchmark feedback reports to participating organizations; identifying trends and promising preventative practices; and systematically implement these practices across the network. At present 15 specialist MHIs collaborate with 113 in this confidential learning network.
At the start of the National Suicide Prevention Strategy MHIs were cautious and generally did not accept Zero Suicide as a rational approach to prevent suicides in healthcare. Interestingly and unexpectedly, recently a turning point occurred. In 2017 SUPRANET Care participants adopted a Zero Suicide mission “Mental health care so good, that none of our patients die by suicide.” In 2018 the AMHAC-NL, the lead agency of all MHIs that in 2013 challenged that better care would enhance suicide prevention, followed with a mission: that no one in this country dies alone and in despair by suicide”.

One explanation for this unexpected, sudden change in mindset towards suicide prevention is that Zero Suicide in essence embodies the reset of a social norm about suicide prevention. Social norms are self-enforcing patterns of behavior within a group (Nyborg et al., 2016) that are known to remain stable for long periods; but if they change, they may do so suddenly and dramatically, from one alternative norm to another. A famous historical example is the sudden change in the social norm on foot binding of Chinese girls that was dominant during centuries but disappeared within a generation. Dutch examples of sudden changes in social norms are non-smoking in public buildings, cafés and restaurants; or the abandonment of routine use of separation cells in psychiatric intensive care settings.

Social norms are sustained as a result of multiple factors like fear of being (socially) sanctioned; reinforcement of the membership of a group; or the desire to follow the lead of others. As Young (2015) suggests, the dynamics of medical practice variation and practice guideline adoption can be understood as a result of evolution of social norms regarding treatment. Regarding suicide prevention care, the currently dominant norm of accepted suicide is based on a heroic view in which professionals regard themselves personally responsible and accountable for patient outcomes. Against this background, losing a patient to suicide is an emotionally threatening experience that evokes doubts about the professional competence and fear of shame, blame and (social or professional) sanctions. The social norm of accepted suicide provides comfort and reassurance to restore professional confidence. It also protects against shame, blame and litigation: “Patient suicide can happen to all of us. You stay one of us if this happens to you.” Finally, it reinforces standards of clinical practice that are deemed reasonably “good enough” to care for people at risk of suicide. This aspect is valuable in cases of litigation in which the question is to what extent a clinician acted the way most clinicians would have in a similar case. The value and function of the social norm of accepted suicide clearly is at odds with the value of a social norm
that ambitiously pursues the prevention of all suicides by raising standards of good practice.

Dramatic changes in social norms can be understood by mathematical models that were initially developed by ecologists to explain sudden ecological changes, e.g. climate changes or the growth of decline of populations (Nyborg et al., 2016; Scheffer, 2009). Central to these models is the role of self-enforcing positive feedback that causes a system to cross a tipping point between two stable equilibrium states. These models can be applied to understand the dynamics in a wide range of complex systems and on different scales, ranging from bacteria to societies and from symptoms to epidemics (Scheffer, 2009). Tipping point dynamics may help evaluate the findings in Chapter 5 and 6, and guide further action to implement suicide prevention best practices in specialist mental health care.

As tipping point models predict, the pressure Zero Suicide puts on the governing social norm of resigned acceptance of suicide initially evokes counteracting forces that protect this social norm. As described in Chapter 6, concerns and objections against Zero Suicide are expressed in the mental health community to protect the current standard of good practice that allows the field to ignore rational opportunities to improve the quality and safety of the care provided. In this phase the social norm of accepted suicide does not change and evidence-based policies and practices are not implemented. Seen in this light minimal or modest results like those found in our SP-EDO study do not necessarily imply that efforts to improve healthcare have been undertaken in vain. To the contrary: given the resilience of social norms to resist change they can be expected. However, change per se does not guarantee subsequent tipping towards a new social norm either. To cross a tipping point a critical mass of opinion leaders, followers and stakeholders have to change their mind and become interested in opportunities to prevent more suicides. This appears to have happened in the Henry Ford Medical System that showcases the powerful prevention effect of perfecting depression care, driven by a zero suicide ambition (Coffey, 2006; Coffey, Coffey & Ahmedani, 2013). The question is thus: how to create a critical mass within Dutch mental healthcare?

As clarified in Chapter 6, Zero Suicide combines an appeal on hard to dispute universal human values, with sound organizational principles and evidence-based practices that have shown to be effective in preventing suicides. Explaining these elements, it took 113 relatively little effort to convince many non-healthcare stakeholders like railway companies, journalists, members of Parliament and policy makers at the Ministry of Healthcare, Welfare and Sports of the rationale behind
Zero Suicide. Some of them even wondered: what is new about Zero Suicide? To these stakeholders it was hard to believe that the goal of zero suicides was not what healthcare had been pursuing already for decades.

There were of course critical reactions. To the Dutch, Zero Suicide sounds like zero tolerance, an expression that is associated with crime fighting. In a country that values self-determination highly and has a liberal legislation on euthanasia, this may give the false impression that Zero Suicide implies a moral condemnation of suicide and suicidal behavior. Despite these critical connotations the Dutch Minister of Healthcare grew more supportive of the imperative to prevent suicide. In 2017, for the first time in history the Dutch government explicitly mentioned suicide prevention as a priority for (mental) healthcare; and further expanded the budget for 113. Still, in 2016, many MHI's were cautious and critical of Zero Suicide.

Conceivably the spread of the Zero Suicide vision on suicide prevention in Dutch society has reinforced the mutative effect of the SP-EDO intervention, resulting in a tipping point in which mental health care leaders changed their mind and adopted Zero Suicide to guide intensified suicide prevention efforts. As Nyborg et al. (2016) explain, policies may help social systems to cross a tipping point between harmful and helpful social norms by increasing visibility of behaviors; increasing willingness to cooperate; and enhancing social learning of individual responsibility. In addition, expectations of the consequences of behavior, i.e. of conforming or violating a social norm, are of great importance to human behavioral change. In this sense the SP-EDO approach and SUPRANET Care may be viewed important steps in the right direction, as these aim at making organizational behaviors visible and stimulate social exchange and learning.

Thus, the rationale and values behind Zero Suicide is not the only thing made mental healthcare leaders change their mind. Based on their experiences with SP-EDO and SUPRANET they trusted 113 in supporting them to find feasible and safe (i.e. without a risk of blame) ways to pursue the aspirational goal of zero suicides. What may have won them over most may well have been the change in social norm in Dutch society. Seeing how suicide prevention is valued in society, they expect that there is much more to gain by the ambitious pursuit of a Zero Suicide mission, than by sticking to defensive management of low expectations of healthcare suicide prevention. These elements appear to have convinced that suicide prevention should be spearheaded in the next decades.
Still it is questionable to what extent mindset among leaders will result in a critical mass sufficient to change suicide prevention in daily practice; a change in social norms of a community is rarely the result of top-down directives. However strongly professionals may endorse the value that no one should die alone and in despair of suicide, they will not reset their norm without expecting that they and their patients will be better off. To win their hearts and minds of leaders have to prioritize suicide prevention, first and foremost by fostering a Just Culture of learning and improvement (Dekker, 2016) that protects them as much as possible from the negative consequences of patient suicide. Next, professionals have to be convinced that suicide prevention is a systems achievement, not the result of heroic individual actions. Applying principles derived from social norm dynamics, key suicide prevention behaviors and outcomes should be made visible and used to learn and improve across the organization. Finally, in collaboration with patients, professionals have to be supported in the redesign and implementation of key routines and processes. In summary: improving suicide prevention in specialist mental healthcare is a major patient and staff safety objective that warrants the systematic application of principles of implementation science.

7.3 Conclusion

As this thesis shows, improvement of the quality of healthcare suicide prevention is a process that takes time, coordination and continuous pressure to build momentum. In the course of ten years apparently small but important steps have been made in the Netherlands to improve the care for the population of people at risk of suicide. In this period 113 has developed into the lead suicide prevention agency that offers not only online help and support, but also promotes and monitors health care suicide prevention. Suicide prevention is now spearheaded explicitly in major government and mental healthcare policies. Apparently modest results may prove important in reaching the tipping point that separates a mindset of resigned acceptance of suicide from a mindset of active prevention of suicide. Lack of “quick wins” should therefore not discourage but inspire to sustain and enhance efforts, for suicide is a disaster and every life counts. To quote Shih-Cheng Liao, a Taiwanese colleague: “It is a long road to Zero Suicide. Therefore, we have to start walking today.”
References


Nederlandse samenvatting
Veertig procent van de mensen die in Nederland door suiïcide overlijdt is in zorg bij de geestelijke gezondheidszorg (GGZ). Terwijl met goede GGZ al veel suiïcides voorkómen worden, blijkt uit onderzoek dat er nog een wereld te winnen is door de kwaliteit van de zorg te verhogen. Dit kan onder meer door de toegankelijkheid van zorg te vergroten. Hierdoor krijgen meer mensen met suiïcidale gedachten en gedragingen hulp; en krijgen ze die hulp ook eerder. Een andere strategie is het aanmoedigen van hulpverleners om hun patiënten effectievere, op wetenschappelijk bewijs berustende diagnostiek en behandelingen aan te bieden. Dit kan door te bevorderen dat de Multidisciplinaire Richtlijn voor Diagnostiek en Behandeling van Suïcidaal Gedrag wordt gevolgd.

Uit onderzoek en in de praktijk blijkt dat het verbeteren van de zorg vaak makkelijker gezegd is dan gedaan. Door allerlei obstakels (op het gebied van tijd, geld, en organisatie; maar ook door geldende opvattingen en normen, of ingesleten routines) kost het vaak jaren voordat nieuwe technologieën of wetenschappelijke inzichten hun weg naar de praktijk vinden. Implementatie studies, zoals gepresenteerd in dit proefschrift, bestuderen het proces en de voortgang van strategieën om kwaliteitsverbetering te bevorderen en te versnellen.

Dit proefschrift beschrijft implementatie onderzoek naar twee strategieën om door betere GGZ meer suiïcides te voorkómen. De eerste strategie is het vergroten van de toegankelijkheid en patiëntgerichtheid van GGZ door het aanbieden van online hulp aan suiïcidale mensen, die 7x24 uur, gratis en anoniem kan worden verkregen via www.113.nl. De tweede strategie is de implementatie van wetenschappelijk gefundeerd suiïcide preventiebeleid binnen specialistische GGZ instellingen in Nederland.

In deel I van dit proefschrift (hoofdstuk 2-4) staat de eerste strategie centraal.

Hoofdstuk 2 beschrijft de hulp geboden door 113 Zelfmoordpreventie, dat toen nog “113Online” heette, in haar eerste drie jaar. De verschillende vormen van online en telefonische hulpverlening worden beschreven, hoe vaak zij werden gebruikt, en welke doelgroepen hiermee werden bereikt. Het onderzoek toont dat het haalbaar is om een online hulpverleningsplatform platform voor suiïcidale mensen en hun omgeving op te zetten. De vraag naar anonieme hulp blijkt groot. Daarbij voorziet de mogelijkheid om vrijuit te kunnen praten over zelfmoordgedachten en gevoelens in een behoefte waar de reguliere GGZ onvoldoende aan tegemoet lijkt te komen.
Hoofdstuk 3 presenteert de evaluatie van de crisis chat hulpverlening van 113. Kenmerken van hulpvragers en veranderingen in hun emotionele toestand werden bestudeerd. De crisis chat van 113 bereikt veel mensen met ernstige suïcidaliteit en (mentale) gezondheidsproblemen. Jonge vrouwen vormen de grootste groep gebruikers. De bevindingen laten een positief effect van de 113 crisis chat zien dat vergelijkbaar is met het effect van telefonische hulpverlening, maar tonen ook dat er ruimte is voor verbetering. Zo bleek dat suïcidaliteit vaak niet was besproken in de eerste en laatste 10 minuten van de chat. Dit kan er op duiden dat de 113 vrijwilligers terughoudend waren om suïcidaliteit expliciet aan de orde te stellen als de hulpvraag dit zelf niet naar voren bracht; en dat de oplossingsgerichte gespreksoverlegging hierin een extra belemmering vormde. Naar aanleiding van deze bevindingen heeft 113 de kwaliteit van de chat hulpverlening verbeterd. Nu wordt aan het begin van ieder gesprek onderzocht hoe veilig de situatie van de hulpvraag is, en wordt gericht en actief gevraagd naar zelfmoordgedachten en –gedrag. Aan het eind van het gesprek wordt nagegaan hoe sterk de suïcidaliteit nog is en wat er nodig is om veilig te blijven.

Hoofdstuk 4 beschrijft een onderzoek naar het bereik, de voordelen maar ook de mogelijke schadelijke effecten van het online forum dat werd aangeboden op de website van 113. Dit forum is bedoeld om bezoekers van www.113.nl met elkaar in contact te brengen om onderling steun te vragen en te bieden. Het onderzoek toonden dat het forum slechts door een kleine groep hulpvragers werd gebruikt. Het forum bood deze gebruikers geringe voordelen waar echter ook moeilijk beheersbare risico’s aan verbonden waren, zoals het vinden van een zelfmoordmethode of een lotgenoot om samen zelfmoord mee te plegen. Naar aanleiding van het onderzoek besloot 113 het forum te sluiten.

Deel II van dit proefschrift onderzoekt de tweede strategie: de implementatie van wetenschappelijk gefundeerd suïcide preventiebeleid in de GGZ. Hoofdstuk 5 beschrijft een implementatiestudie van aanbevelingen uit de Multidisciplinaire Richtlijn voor Diagnostiek en Behandeling van suïcidaal gedrag. De uitdaging bij de implementatie hiervan was dat suicidepreventie voor GGZ instellingen een gevoelig thema was. Bestuurders en hulpverleners twijfelden eraan of door betere hulpverlening meer suïcides kunnen worden voorkómen en vreesden een onterecht verwijt te krijgen als zij niet meer suïcides zouden voorkómen. 113 Zelfmoordpreventie ontwerp daarom samen met 24 GGZ instellingen verspreid over het land een studie opzet waarmee veranderingen in beleid gemeten konden worden teneinde hiervan te leren en te kunnen verbeteren. Kwartiermakers, werkzaam voor 113, bezochten deze instellingen ieder half jaar en bespraken hoever
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de invoering van de Richtlijn binnen de instelling was gevorderd in de studie periode van drie jaar. Dit gebeurde aan de hand van een monitor instrument dat samen met de instellingen is ontwikkeld. Op vier van de tien onderdelen werd een toename van de toepassing van de Richtlijn gevonden: 1) het opstellen en uitwerken van een suicidepreventie beleidsplan; 2) het trainen van medewerkers in suicidepreventie; 3) het evalueren van de zorg nadat een patiënt door zelfmoord overlijdt; en 4) het analyseren van meerjarige trends in het aantal suïcides in de eigen instelling. De bevindingen uit deze studie geven aan dat er een belangrijke eerste stap is gezet, maar ook hier: dat er nog veel ruimte is voor verbetering en dat er nog steeds sprake is van significante praktijkvariatie. Dit betekent dat er duidelijke verschillen zijn in de kwaliteit van zorg voor suïcidale mensen die wordt geboden door verschillende GGZ instellingen in Nederland.

Hoofdstuk 6 zoomt in op Zero Suicide, een van oorsprong Amerikaanse beweging die in Nederland en internationaal steeds meer voet aan de grond krijgt. Zero Suicide streeft naar een culturele paradigmaverschuiving binnen gezondheidszorg systemen en in de samenleving; van gelaten acceptatie van zelfmoord naar actieve preventie van zelfmoord. De kerncomponenten van de Zero Suicide benadering en hun wetenschappelijke onderbouwing worden in dit hoofdstuk verduidelijkt. Zero Suicide vat suicide preventie op als een patiënt- en staf veiligheidsvraagstuk, dat alleen door een organisatie brede aanpak kan worden beantwoord. Andere kerncomponenten zijn: gerichte en continue aandacht voor mogelijke suïcidaliteit bij alle patiënten in zorg; en optimalisatie zorgprocessen waardoor het mogelijk wordt alle suïcidale patiënten tijdig effectieve hulp te bieden. Samenvattend komt Zero Suicide neer op het steeds verder verbeteren van de kwaliteit van zorg binnen gezondheidszorg systemen, die wordt aangedreven door het inspirationele doel van nul suïcides als verre stip aan de horizon. De conclusie is dat het rationeel is om dit doel na te streven bij patiënten in de gezondheidszorg, op voorwaarde dat de reis naar nul zelfmoorden wordt ondernomen op een manier waarbij zorgprofessionals zich gesteund voelen en beschermd worden tegen ongepaste verwijten als een patiënt overlijdt door zelfmoord.

Concluderend laat dit proefschrift zien dat verbetering van de kwaliteit van suicidepreventie in de gezondheidszorg een proces is dat tijd kost, en geduld, coördinatie en voortdurende aandacht vergt. De afgelopen tien jaar zijn er bescheiden maar belangrijke stappen gezet in Nederland om de zorg voor suïcidale mensen te verbeteren. Naast de directe verbeteringen in de zorg zijn er ook tekenen dat sprake is van een kantelpunt in het denken over suicidepreventie in Nederland. Sinds 2018 is suicidepreventie een speerpunt in het beleid van de overheid en de geestelijke
gezondheidszorgsector. Steeds meer GGZ instellingen en gemeenschappen laten zich inspireren door Zero Suicide. De mentaliteit van gelaten acceptatie van zelfmoord lijkt om te slaan naar een mindset van actieve preventie van zelfmoord. Om Shih-Cheng Liao, een Taiwanese collega, te citeren: “Het is een lange weg naar Zero Suicide. Daarom moeten we vandaag beginnen te lopen.”
Curriculum Vitae
Jan Mokkenstorm was born in 1962 in Leiderdorp. In 1980 he graduated from the Visser ‘t Hooft Lyceum Leiden. He then studied a year at Simon Fraser University Vancouver, Canada and started his medical training at the Rijks Universiteit Limburg Maastricht which he completed in 1988. He specialized in psychiatry at PCA Valeriuskliniek and the Vrije Universiteit Amsterdam (1990-1995). As a licensed psychiatrist, psychotherapist, supervisor and manager he started working in acute and intensive care psychiatry at GGZinGeest. Touched by the loss of patients to suicide, inspired by psychotherapeutical approaches to understand and treat patients at risk of suicide; and recognizing the possibilities of e-mental health, in 2007 Jan took the initiative for the foundation of 113 Suicide Prevention. Under his direction 113 has developed into the lead suicide prevention organization in the Netherlands. Its activities now span the entire spectrum of evidence based suicide prevention strategies including epidemiological and clinical surveillance of suicidal behavior; research, development and provision of innovative online interventions; implementation of multilevel public health interventions and media guidelines; and training programs for professionals and gatekeepers. In 2015 he resigned from his position of medical director at GGZinGeest to start working there as a researcher and consultant psychiatrist. In 2016 he co-founded Suicide Research the Netherlands (SURE-NL). In 2018 he was appointed CEO of 113 Suicide Prevention.

In 2014, Jan was awarded the title of Radical Innovator of the year. In 2016 he received the Ivonne van de Ven Award for his achievements in suicide prevention. In 2018 his Majesty King Willem-Alexander knighted him in the Order of the Dutch Lion.

Jan is married to Nicole Kwaks, together they have four children: Kiki, Milo, Mannes and Dette.
Publication List


Dankwoord
Dankwoord

Dit proefschrift is de weergave van een wetenschappelijk reis die ik samen met mijn promotoren, co-auteurs en collega’s van 113 Zelfmoordpreventie mocht ondernemen. Deze weg naar betere suicide preventie zorg verleent de tweede betekenis aan de titel “On the road to Zero Suicide”.


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An important turning point in my thinking about suicide prevention was discovering Zero Suicide that redefines it as a healthcare quality and safety challenge.
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Promoveren wordt weleens beschreven als een lange en eenzame weg die door de promovendus moet worden afgelegd om een einddoel te bereiken dat uiteindelijk niet meer dan een tussenstop blijkt. Voor mij ligt dit totaal anders. De weg was weliswaar lang maar verveelde nooit. Ik heb mij altijd verzekerd geweten van het gezelschap van inspirerende reisgenoten en van het nut van deze reis. Daarnaast heb ik mij enorm gesteund gevoeld door collega’s, vrienden en familie die mij dit traject hebben gegund. Ook hier zijn er te veel namen om op te noemen. Ik beperk me daarom tot de mensen die emotioneel het dichtst bij mij staan. Govert van Opbergen en Edwin Goedhart, dank voor jullie vriendschap die een broederschap is. Ik ben er trots op dat jullie mijn paranimfen zijn.

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This dissertation provides a collection of studies of two suicide prevention strategies that aim to improve healthcare for people at risk of suicide. The first strategy is the implementation of a national e-mental health platform offering online suicide prevention interventions that can be accessed anonymously, 24/7 and free of charge. The second strategy is implementation of evidence-based suicide prevention policies and practices in specialist mental health care.

The research presented in this thesis focuses on the process and progress of these strategies as developed and implemented by 113 Suicide Prevention. As our research shows, both strategies have led to promising improvements of healthcare suicide prevention quality in the Netherlands.

Improvement can be further accelerated by adopting a Zero Suicide ambition that helps healthcare reach a tipping point in its mindset: from resigned acceptance of suicide to active prevention of suicide. This is why 113 Suicide Prevention strives for a country where no one dies alone and in despair by suicide.