



Nordic Council
of Ministers

Prevention of suicide and suicide attempts in the Nordic countries

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PREFACE

This report was prepared for the Council of Ministers by Senior Researcher and Head of Program Annette Erlangsen, PhD from the Danish Research Institute for Suicide Prevention (DRISP) in collaboration with Trine Madsen PhD, Britt Morthorst Reuter PhD, Nikolaj Kjær Høier, Prof. Merete Nordentoft, DRISP; Prof. August G Wang from University of Faroe Islands, Tórshavn, Faroe Islands; Prof. Erkki Isometsä from Department of Psychiatry, University of Helsinki, Finland; Prof. Timo Partonen, Finnish Institute for Health and Welfare, Finland; Pia Solin, Finnish Institute for Health and Welfare, Finland; Prof Christina Viskum Lytken Larsen, Ivalu Katajavaara Seidler, and Arnarak Patricia Bloch from Centre for Public Health in Greenland, National Institute of Public Health, University of Southern Denmark, Denmark; Gudrun Jona Gudlaugsdottir MS and Hogni Oskarsson MD from Center of Suicide Prevention, Lifsbru, Directorate of Health, Iceland; Prof. Ping Qin PhD and Prof. Lars Mehlum MD PhD from National Centre for Suicide Research and Prevention, Institute of Clinical Medicine, University of Oslo, Norway; Prof. Dr Murad M Khan from Department of Psychiatry, Aga Khan University, Pakistan; Prof. Danuta Wasserman MD PhD, Vladimir Carli MD, and Gergö Hadlaczky from National Centre for Suicide Research and Prevention of Mental Ill-Health, Karolinska Institutet, Sweden



1. EXECUTIVE SUMMARY

This report provides a situation analysis of suicide deaths and suicide attempts in the Nordic countries for the period of 2000–2023. The aim of the report is to provide an overview of current trends, identify the main challenges and most promising strategies for reducing the burden of suicidal behaviour.

Executive summary of main challenges and main findings:

- In 2022, a total of 3,574 individuals died by suicide in the Nordic countries.
- The highest suicide rate was found in Greenland. The lowest rates were found in Faroe Islands and Aaland Islands.
- In 2015, the United Nations, as a part of the World Goals for Sustainable Development, introduced the goal of a 33% reduction in the suicide mortality rate by 2030 (aim 3.4.2). In Nordic countries with stable trends over time, only modest improvements have been observed in the suicide rate since 2015.
- The registration of suicide deaths is evaluated to be reliable across all the Nordic countries. Rates are being monitored on a yearly basis. Yet, suicide figures from Faroe Islands, Greenland and Aaland Islands are seemingly not being reported to the WHO Mortality Database. This is concerning, given that Greenland has the highest suicide rate in the world.
- National register data facilitates setting up monitoring systems for surveying high-risk groups as well as calculation of statistical measures, such as cumulative incidences and population attributable risk, which are useful for identifying target groups for suicide preventive efforts.
- In almost all countries, suicide attempts are seemingly not been monitored. A continuous monitoring of suicide attempts could facilitate a fast response to emerging trends.
- An abundance of scientific evidence exists regarding risk and protective factors for suicide from the Nordic countries.

- Identified high-risk groups include individuals with mental disorders and individuals who have had a previous suicide attempt. The time shortly after discharge from psychiatric hospital has been linked to extremely high suicide rates. Also, numerous stressful and traumatising life-events are associated with elevated risks of suicide.
- Physical disorders, which affect large segments of the population, such as cancer and heart diseases, are linked to elevated risks of suicide. It is plausible that the excess risk is mediated through depressive disorders.
- Approximately 75% of those who die by suicide have been seen by their primary care provider within the last 12 months. However, deficiencies in the provided care have been suggested.
- Physician-assisted suicide remains illegal in all Nordic countries.
- It is important to inform about palliative care options and to ensure sufficient availability.
- Almost all Nordic countries have a national plan for suicide prevention. Long-term funding for achieving identified goals is essential to ensure that measures will be implemented in clinical and daily practice.
- Building on the universal, selective, and indicated model, national plans for suicide prevention should be multi-level and multi-modal; this implies employing a range of different strategies and addressing different groups. Although evidence on effective interventions exists, there is still need of development of specialized interventions and research to document scientific effects of these.
- Means restrictions have consistently been linked to suicide reductions. Although jumping from a high place and suicide by moving object, for instance railway, account for relatively small proportions of all suicides, effective interventions exist and might be further explored.
- A detailed, real-time monitoring of suicide methods and high-risk groups would allow for identification of potential venues for means restriction and target groups for interventions.
- An award for promotion of adherence to the WHO media guidelines exist in several but not all of the Nordic countries and nations.
- Psychosocial therapy, based on cognitive behavioural therapy and dialectic behavioural therapy, provided in out-patient settings for individuals with severe suicide thoughts or after a suicide attempt has been evaluated as effective.
- Clinical staff in the psychiatric sector is reported to be knowledgeable about risk assessment and safety planning. However, follow-up routines for people who present with suicide attempts in somatic emergency departments are seemingly missing in most countries.

- The Nordic countries benefit from a largely free healthcare model. Given that many patients are in regular contact with healthcare providers for the treatment of their disorder, wider attention to and screening for depression might be considered, for instance in the primary care sectors.
- The cultural and societal similarities across the Nordic countries is a strong argument for exchange of effective efforts as well as development of joint interventions.



2. INTRODUCTION

Every suicide death is one too many and casts a heavy shadow over the bereaved, who may be affected by stress, anxiety, and complicated grief (Pitman, et al., 2014, Erlangsen, et al., 2017a). Furthermore, it is tragic as suicides are often preceded by a serious life crisis or an overwhelming psychological pain. By ensuring that the right help is available, society can in many cases, prevent suicide.

The Nordic Council Welfare Committee's 2025 Ambition sets a goal of reducing the number of suicides by 25% in 2025 - with or without COVID-19 (Nordic Council of Ministers, 2020). This is in line with the United Nation's World Goals for Sustainable Development. The aim 3.4.2 in the goals, which was introduced in 2015, specifies the reduction of the suicide mortality rate in the world by 33% by 2030 (United Nations, 2015). This aim was acknowledged by the Nordic Council of Ministers' Agenda 30, which was published in 2021 (Nordic Council, 2021). It yet remains to be established whether the recent trends in the Nordic rates of suicide are moving in the direction of achieving these goals.

Suicide has previously been defined as an act of deliberately taking one's life. The same behaviour with a non-fatal outcome may be considered as deliberate self-harm, also referred to as suicide attempt (World Health Organization, 2014).

The World Health Organization (WHO) recommends that countries adopt a strategy for suicide prevention to guide national efforts. The LIVE LIFE guide published by the WHO builds on the existing evidence in suicide prevention and promotes four key interventions accompanied by seven public health pillars to support their implementation (World Health Organization, 2021a). This resource may serve as inspiration for local stakeholders as well as government agencies. A strength of the guide is that the suggested key initiatives may be implemented at any scale and, thus, are equally useful for local volunteer organisations as for policymakers. It also emphasizes the importance of summarizing existing efforts and main challenges through a Situation Analysis.

More than 27 million people live in the Nordic countries and self-governing nations, consisting of Denmark, Faroe Islands, Finland, Greenland, Iceland, Norway, Sweden,

and Aaland Islands (Appendix 1). Every day, 10 people die from suicide in the Nordic countries. Seen in an international context, the suicide rate has remained at a relatively low level in most Nordic countries over recent decades (World Health Organization, 2014). Nevertheless, one of the countries, Greenland, accounts for one of the highest suicide rates in the world (Naghavi, 2019).

The Nordic countries share many similarities, including social welfare models, universal and free health care, and register-based linkage data (Erlangsen, et al., 2018a). These and other features may facilitate sharing suicide preventive strategies and interventions between countries. The fact that several of the Nordic countries have national action plans for suicide prevention as well as experiences with different types of interventions are further arguments for exchange. A mapping of existing efforts, their evaluations, and identified challenges will, thus, be of mutual benefit and allow for optimization of national initiatives. The Nordic countries have, with their register data, unique opportunities for identifying and monitoring risk groups, evaluating initiatives and quantifying priority areas, for instance by calculation of effect measures and population attributable risks (Erlangsen, et al., 2018a, Nordentoft, et al., 2021). Register-based data may also facilitate monitoring of real-time trends. Finally, collaborations exist between Nordic research teams within suicide prevention have already resulted in several joint research outputs (Morthorst, et al., 2020a, Titelman, et al., 2013, Oskarsson, et al., 2023).

The present report provides a situation analysis for the Nordic countries for the period 2000-2023. It is based on available evidence from official databases, peer-reviewed publications, government issued reports, sources identified online, such as official news outlets and websites from institutions, stakeholders, and nongovernmental organizations (NGOs) operating within the field of suicide prevention. Certain information was collected through interviews with Key Informers from each of the Nordic countries. The goal of the report is to provide an overview of current trends, and to identify main challenges and opportunities for intervention to reduce the number of suicides and self-harm events. The report aims to provide information of relevance for policymakers, researchers, NGOs, and people who are interested in reducing the burden of suicide in the Nordic countries. It may also serve as a basis for forming alliances and setting up joint projects in the region.

The report is divided into an epidemiological overview of trends by sex in suicide rates over recent years, followed by a presentation of established risk and protective factors of suicide based on evidence from the Nordic countries. Other topics, which are addressed, include registration of suicidal events, legislative aspects. Central concepts regarding national suicide prevention are presented together with a status report on national efforts each of the countries. Also, an overview of the existing evidence on effective interventions and suggestions for relevant measures is presented. Lastly, resources related to suicide prevention in the individual countries are listed in a series of appendices.



3. EPIDEMIOLOGICAL ANALYSES

Information on suicide deaths is collected and published as national vital statistics in most of the Nordic countries. National statistical offices report these data to the WHO Mortality Database. Monitoring trends of suicide deaths is essential for evaluating whether preventive efforts have the desired impact. Furthermore, such data allows governments and other stakeholders to determine whether countries meet jointly formulated targets, such as the United Nations Sustainable Development Goals. Data are generally reported by sex, age group and calendar years and may also be available by suicide methods.

In this section, the recent trends in suicide deaths across the Nordic countries are presented. Data was obtained for 2000-2022 from stakeholders in the individual countries and the Statistical Offices and Public Health Agencies, which are listed in Appendix 2 – 8. The data quality of the cause of death registration in Denmark, Finland, Iceland, Norway and Sweden have all been evaluated as being of high quality by the WHO Global Health Estimates (World Health Organization, 2020a). The reliability of the registration of suicides was confirmed by expert statements from each of the countries (Table 6.1). The registration of suicide deaths is described in Section 6. Rates were age-standardized according to the WHO World Standard Population 2000-2025 using direct standardization (World Health Organization, 2020a, Preston, et al., 2000).

3.1. SUICIDE DEATHS

A total of 3,574 suicides occurred in the Nordic countries in 2022/2021. The highest number of suicides were recorded in Sweden where 1,566 individuals died by suicide in 2022 (Table 3.1). Faroe Islands and Aaland Islands record the smallest absolute numbers of suicides, followed by Iceland and Greenland with 34 and 40 incidents in 2022, respectively.

The highest age-standardized suicide rate was found in Greenland where 71.3 suicides were recorded per 100,000 population. Followed by Finland and Sweden with age-standardized rates of 11.9 and 12.4 per 100,000 population, respectively. Faroe Islands have previously been shown to have a very low suicide rate, which for 2021 was evaluated to be 4.3 per 100,000 population (Wang & Stórá, 2009). This level was comparable with the suicide rate for Aaland Islands.

When assessed over time, a decline in the age-standardized suicide rate for both sexes was observed in Finland, Iceland, Aaland Islands as well as modest decreases in the Danish and Greenlandic suicide rates, while Faroe Islands, Norway and Sweden seemed to have remained at the same level (Figure 3.1).

With respect to sex, the highest suicide rates were found for both Greenlandic males and females (Appendix 9, Figure A1 and Figure A2). Over calendar time, a decrease in the suicide rate was observed for males in Denmark, Finland, Greenland, Iceland, and Aaland Islands, while decreases were found for females in Finland, Greenland, and Aaland Islands. The decrease observed in small nations, however, can be a result of random variation.

Table 3.1 Number of suicides and suicide rates for 2022.

	Suicides	Crude rate per 100,000	Age-standardized rate per 100,000
Both sexes			
Denmark	582	9.9	7.5
Faroe Islands*	2	3.8	4.3
Finland	740	13.3	11.9
Greenland	40	70.7	71.3
Iceland	34	9.0	7.4
Norway	610	11.2	9.9
Sweden	1566	14.9	12.4
Aaland Islands*	1	3.3	2.4

* Newest year for which data were available for Faroe Island and Aaland Islands were from 2021. In all countries except Sweden, suicide deaths were identified as ICD-10: X60-X84, Y87.0, while following codes were considered as suicide deaths in Sweden ICD-10: X60-X84, Y87.0, Y10-Y34, Y87.2 (see section 6.1).

The United Nations' World Goals for Sustainable Development were introduced in 2015 and contains an aim of reducing the number of suicides in the world with 33% before 2030. Using the available data, the percentual change between 2015 and 2022/2021 was calculated as an indicator of the progress secured so far (Appendix 9, Table A1). Based on the age-standardized rates, a decline in the Icelandic suicide rate from 11.7 in 2015 to 8.6 (27.0%) in 2022 was observed. The age-standardized rate in Greenland increased with 8.1% from 73.7 to 79.6 per 100,000. It is, however, important to note that these changes are based on relatively few incidences of suicide, thus, some random variation over time cannot be excluded. In Sweden, the overall suicide rate was found to have decreased with 3.9% from 13.4 to 12.4 per 100,000. Different trends were seen in the age-standardized rate for males and females. As such, none of the Nordic countries have yet reached the goal of a 33% reduction in the suicide rate. Moreover, only modest improvements have been observed in countries with high and/or stable rates.

The goal of the Nordic Council Welfare Committee of reducing the number of suicides by 25% in 2025 was not assessed, as this was first introduced in 2020.

Males outnumber female suicides with a sex ratio of approximate 3:1 in the Nordic countries, except for Greenland where a 2:1 ratio is reported (Oskarsson, et al., 2023, Seidler, et al., 2023a).

Suicide rates are highest among middle-aged and older adults in Denmark and Sweden, while a more even distribution across all age groups (except those below age 25 years) was seen in Finland and Norway. In Iceland, middle-aged males seemed to have the highest suicide rate of all age groups. In Greenland, suicide rates of males and females are found to peak among adolescents and young adults aged 15-29 years (Oskarsson, et al., 2023, Seidler, et al., 2023a).

In recent decades, hanging has become the most used method in Greenland, followed by shooting (Seidler, et al., 2023a). According to the latest study on suicide methods in the other Nordic countries, hanging is the most frequently used method for males. The largest share of female suicides were due to poisoning, except for Norwegian women who had a higher prevalence of suicide by hanging (Titelman, et al., 2013). In Finland and Norway, as many as 22% of suicides were by firearms, while around 13-14% of Danish, Icelandic and Swedish males used this method. Suicide by jumping from a high place or in front of moving object, for instance railway, account for a proportionally small share of all suicides. According to expert information, the most frequent method of suicide in Faroe Island is now hanging, while it earlier was shooting (Wang & Stórá, 2009).

When examining the distribution of suicide methods in the Nordic countries for recent years, hanging was found to be the most frequently used method (Table 3.2). In many countries, this was followed by poisoning. In Finland, Greenland, Iceland, and Norway, 15.8%, 17.1%, 9.8%, and 11.0% of all suicides occurred by shooting, respectively.

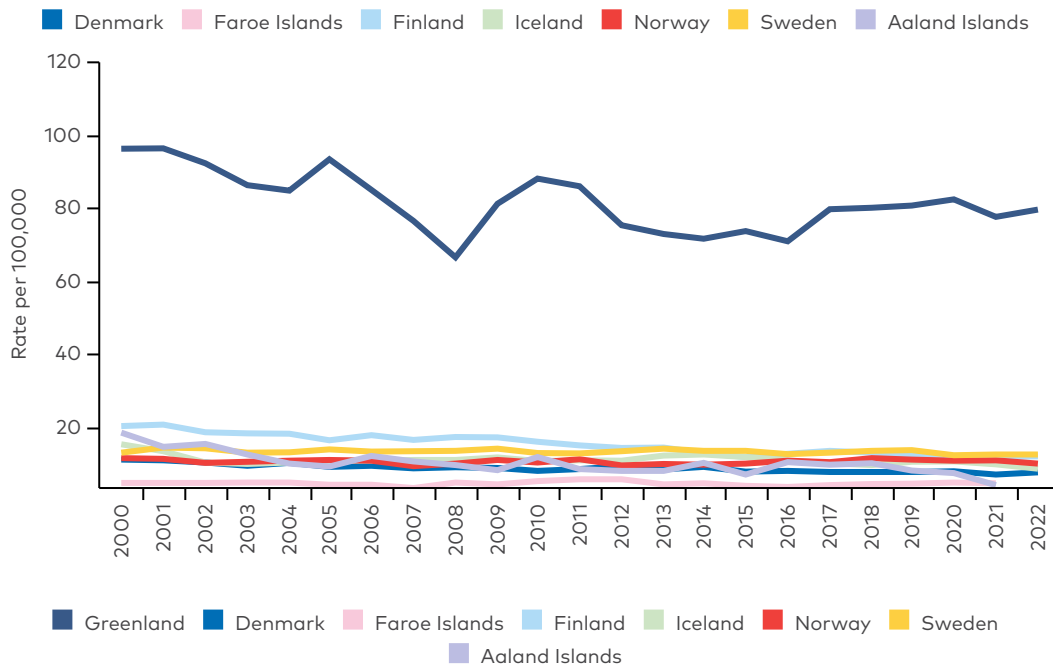
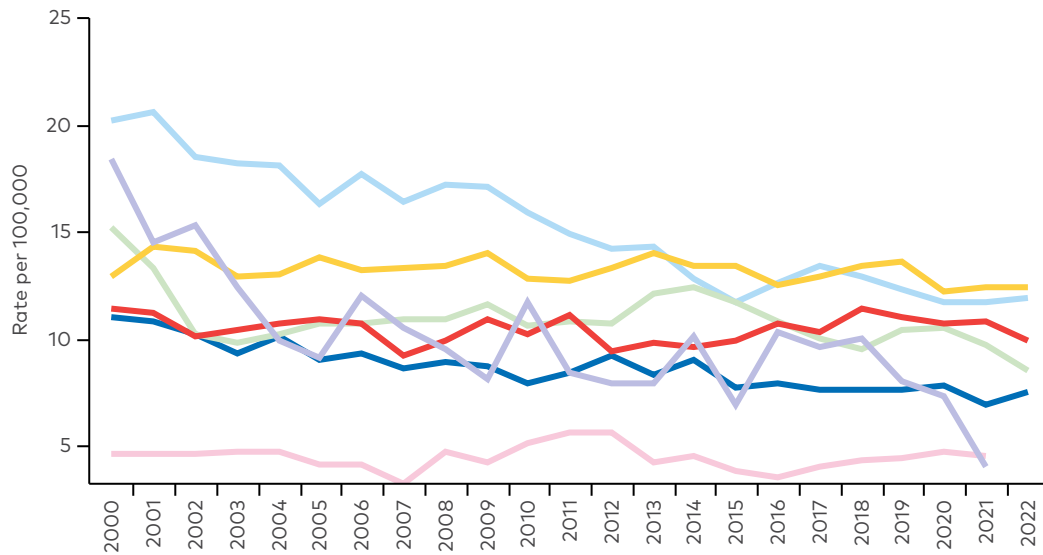


Figure 3.1 Suicide rates for both sexes by calendar year.

Data for Faroe Island for the years 2000–2006 were based on 5-year periods (i.e. 2000–2004 and 2005–2009). Suicide rates for Greenland were presented on a different scale than the other plots. For this reason, the Greenlandic suicide rate was omitted from the other plots. Further, moving averages were used to smooth the suicide rates of Faroe Islands (5-year moving averages), Greenland (3-year moving averages), Iceland (3-year moving averages), and Aaland Islands (5-year moving averages).

Table 3.2 Distribution of suicide methods (in percent).*

	Denmark (%)	Finland (%)	Greenland (%) ^a	Iceland (%)	Norway (%) ^a	Sweden (%)
Poisoning	25.9	22.3	3.6	22.1	15.7	33.1
Hanging	42.3	35.9	74.0	55.9	48.3	35.2
Drowning	5.2	4.6		3.5	5.1	5.4
Shooting	8.5	15.8	17.1	9.8	11.0	7.4
Cutting	5.5	3.3		3.3	3.5	2.6
Jumping	5.2	6.5		2.8	6.5	4.8
Moving vehicle	4.7	9.4		0.3		5.9
Other methods	2.7	2.0	5.2	2.5	10.1	5.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

*Due to few suicide incidents on a yearly basis, data were not available for Faroe Islands and Aaland Islands. The proportion of suicide methods was not reported for all categories. Missing data and other suicide methods were classified as 'Other methods'.

Data sources: Denmark during 2015–2021, Cause of Death Register; Finland during 2013–2022, 11b2: Accidental and violent deaths by underlying cause of death (short list of external causes), age and sex, intoxicated separately, 1998–2022, Statistics Finland; Greenland during 2010–2018, Seidler, Tolstrup, Bjerregaard, Crawford, and Larsen (2023) Time trends and geographical patterns in suicide among Greenland Inuit, *BMC Psychiatry*, 23, 187; Iceland during 2013–2022, Number of deceased with legal domicile in Iceland by cause of death (ICD-10), Statistical database, Statistics Iceland; Norway during 2018–2022, D10a: Selvmord etter alder og døds måte, Norwegian Institute of Public Health; Sweden during 2012–2022, National Centre for Suicide Research and Prevention of Mental Ill-Health (<https://ki.se/en/nasp/suicides-in-sweden>).

3.2. SUICIDE ATTEMPTS

Statistics on suicide attempt are seemingly not published on a regular basis in the majority of Nordic countries. Nevertheless, studies have used hospital records or surveys to examine prevalence and trends of suicide attempt in most of the Nordic countries. Due to different measures of suicide attempt and other self-harming behaviours and different samples, prevalence rates may not be comparable across studies.

In a Finnish survey of 13–18-year-olds, life-time prevalence of self-cutting and other self-injurious methods was reported to be 11.5% and 10.2%, respectively. Self-cutting was more frequent among girls than boys but no difference between boys and girls was seen with respect to other self-injurious methods (Laukkanen, et al., 2009). Swedish 17-year-old students who completed a school survey were found to have a 17.1% lifetime history of deliberate self-harm. Here, girls (23.3%) had a higher prevalence than boys (10.5%) (Landstedt & Gillander, 2011). When comparing results from two waves of school surveys conducted in 8th to 10th grade in Norway, the one-year prevalence of self-harm increased from 4.1% in 2002 to 16.2% in 2017/18. Self-harm was reported double as frequent by girls than boys (Tørmoen, et al., 2020).

Using hospital records to identify suicide attempts, Danish and Norwegian studies have demonstrated that young females between 15-24 years have the highest rates of all groups (Morthorst, et al., 2016, Qin & Mehlum, 2020). In Norway, the overall rate of suicide attempt was 108.6 and 133.4 per 100,000 population for males and females, respectively, during 2008-2013. The corresponding rates for Danish males and females were 86.9 and 130.7 per 100,000 population during 1994-2011. A preponderance of female versus male suicide attempts was, thus, observed for both countries.

A continuous monitoring of suicide attempts could facilitate a fast response to emerging trends. By using the same measure to identify suicide attempts over time, under-recording is likely to remain constant over time and observed trends might reflect true changes.



4. RISK AND PROTECTIVE FACTORS

Suicide is seldomly explained by one causal factor; often multiple factors contribute to the act. Researchers in the Nordic countries have contributed with a substantial amount of high-quality research on suicide prevention. This has partly been facilitated by using the national administrative registers, which exist in all the Nordic countries (Erlangsen, et al., 2018a), in addition to other data sources.

Evidence regarding risk and protective factors for suicide were identified by conducting a literature search. Due to the abundance of Nordic literature, it was opted to restrict the search to studies on death by suicide, as this is less frequent than suicide thoughts and suicide attempts, thus, generating more conservative estimates and reliable findings. Further, the search for risk and protective factors was limited to studies published after 2000, which were based on data from the Nordic countries and where a comparison group equivalent to the general population had been used. When several studies were identified, those with a higher level of evidence, larger study population, more recent data, and estimates, which had been adjusted for relevant confounders were prioritized. Factors were divided into socio-demographic, mental disorders, physical disorders, stressful life-events, psychological, biological, and healthcare-related factors. Explanations for the elevated risks of suicide for some of these factors are also presented.

4.1. SOCIO-DEMOGRAPHIC FACTORS

Several socio-demographic characteristics of individuals who die by suicide have been identified. Excess suicide rates have been reported among Greenlandic people, and the suicide rates in Greenland belong to the highest in the world (Naghavi, 2019). The Sami people of Finland, Norway and Sweden have also been reported to have high rates of suicide (Young, et al., 2015, Jacobsson, et al., 2020). High suicidality among Indigenous populations has been related to the periods of colonization and rapid modernization causing cultural and social disruption and

problems with alcohol and childhood adversities (Bolliger & Gulis, 2018). Further, many members of the Indigenous population have personal experiences of losing someone to suicide, which can increase the risk that suicide is viewed as an option to solve a life crisis (Bolliger & Gulis, 2018, Granheim, et al., 2021). Lack of access to mental health care and availability of firearms are other concerns (Jacobsson, et al., 2020, Bolliger & Gulis, 2018, Granheim, et al., 2021).

In Faroe Islands, rates of suicide have been remarkably lower than in other Nordic countries (Wang & Stórá, 2009). The contributing factors are challenging to demonstrate quantitatively, but social connectedness, a traditionally religious community with low consumption of alcohol have been suggested as contributing factors. In addition, the fact that there are few suicides does not create precedence for new cases, i.e. there are no social role models to follow (Wang & Stórá, 2009, Wang, 2005).

Higher rates of suicide have consistently been found among males in the Nordic countries when compared to females (Øien-Ødegaard, et al., 2021). The difference in suicide rates between the sexes have been attributed to males' preference for more lethal methods, while females tend to use method with a lower fatality ratio, such as poisoning (Nordentoft, 2007). Relationship problems has been mentioned as an explanatory factor for male suicides in Norway (Knizek & Hjelmeland, 2018).

In Greenland, the highest rates are observed among adolescents and young adults aged 15-29 years (Seidler, et al., 2023a), while younger and middle-aged age groups were accountable for the highest rates in Finland, Iceland, and Norway. In Denmark and Sweden, the highest rates of suicide were seen among the oldest age groups. Different circumstances may contribute to the high suicide rates in specific age groups. For instance, misuse behaviours, violence and exposure to sexual abuse have been mentioned as explanations for the high rates of suicide among Greenlandic youth (Seidler, et al., 2023a, Bolliger & Gulis, 2018). The high occurrence of suicides among older adults has been attributed to undiagnosed depression as well as personality traits, such as being strong-willed and a reluctance towards becoming a burden to others (Pitkälä, et al., 2000, Kjøseth, et al., 2002, Kjøseth, et al., 2009a, Kjøseth, et al., 2009b).

Being married has consistently been found to protect against suicide in the Nordic countries (Øien-Ødegaard, et al., 2021, Qin, et al., 2003). Individuals who have never been married, are widowed, divorced, or separated have higher rates of suicide (Øien-Ødegaard, et al., 2021, Crump, et al., 2014) The highest risks were found among those who were separated, followed by those who were divorced (Øien-Ødegaard, et al., 2021).

Having one or more children was found to be protective of suicide compared to not having children, based on data from Greenland and Norway (Øien-Ødegaard, et al., 2021, Seidler, et al., 2023b). Being the parent of a young child has also been shown to be protective of suicide, especially for moms (Qin, et al., 2003, Gissler, et al., 2005, Lysell, et al., 2018).

Lower educational level has been linked to higher suicide risks than higher educational levels (Crump, et al., 2014, Mäki & Martikainen, 2009). Being unemployed has been associated with suicide (Seidler, et al., 2023b, Mäki & Martikainen, 2012). Further, a significant association was found for long-term unemployment in a Finnish population-based sample of adults in the working ages (Mäki & Martikainen, 2012). Also, having to take sick leave has been linked to a higher rate of suicide when compared to those not on sick leave (Wang, et al., 2014). An inverse relation between income level and risk of suicide has been documented in Denmark and Sweden, in the sense that lower income is associated with higher risks of suicide (Qin, et al., 2003, Crump, et al., 2014, Hiyoshi, et al., 2018). With regard to those in employment, higher rates have been reported for medical doctors, dentists, veterinarians, pharmacists, and nurses when compared to other occupational groups (Dalum, et al., 2022, Hawton, et al., 2011). The excess risk in these professions has been attributed to a high workload and stress burden in addition to knowledge about and access to lethal methods (Lindfors, et al., 2009).

Other factors, for instance, where one is born, has also been linked to suicide although findings are equivocal. Living in the country where one was born has been linked to lower suicide rate in Denmark and Sweden (Qin, et al., 2003, Crump, et al., 2014). However, low rates of suicide were also observed among first and second generation immigrants in Norway when compared to those born in the country (Puzo, et al., 2017).

Rates of suicide have been suggested to be slightly higher among young persons living in semi-rural or rural areas in Sweden versus those living in urban areas (San Sebastián, et al., 2020). In Greenland, large variation in suicide rates were seen across different regions (Seidler, et al., 2023a). Area-level markers, such as social deprivation or unemployment rates, seem to play less of a role for individuals' suicide risk when compared to individual-level factors (Agerbo, et al., 2006). However, differing from the norm, for instance, being born by foreign-born parents and living in an area where most people do not have foreign-born parents, might be a risk factor for suicide (Borczyskowski, et al., 2006). As described by the minority stress hypothesis, individuals belonging to minority groups might be more likely to experience stigmatisation and discrimination, which have been linked to higher risks of suicide (Erlangsen, et al., 2023a). The same mechanism has been suggested to explain the higher suicide risks observed among individuals who were international adoptees and might have a different appearance than others and when compared to national adoptees (Borczyskowski, et al., 2006). The minority stress hypothesis has also been mentioned in relation to sexual minority groups. Linkage studies from Denmark and Sweden have revealed elevated rates of suicide among individuals who entered same-sex marriages and transgender individuals (Erlangsen, et al., 2023a, Erlangsen, et al., 2020a, Bjorkenstam, et al., 2016). In Iceland, adolescents who self-identified as belonging to sexual minority groups were found to have higher risks of suicide attempt than other adolescents (Arnarsson, et al., 2015).

4.2. MENTAL DISORDERS AND CONDITIONS

Mental disorders and conditions have consistently been associated with excess risks of suicide. A cumulative incidence of 4.3% was found for males who had a mental disorder in Denmark; implying that 4.3% of this group had died by suicide (Table 4.1). In comparison, just 0.7% of males with no mental disorder had died by suicide (Nordentoft, et al., 2011). For females, the cumulative incidences were 2.1% and 0.3% for those with and without mental disorders, respectively (Nordentoft, et al., 2011). The excess mortality among males and females with mental disorders quantifies to 1.6 and 0.9 years of shorter life spans due to deaths by suicide alone when compared to those of people with no mental disorders (Erlangsen, et al., 2017b). The population attributable risks for females and males who at some point in their lives had been admitted to psychiatric hospital have been calculated as 53.9 and 32.5, respectively, using Danish data (Qin & Nordentoft, 2005). These figures provide evidence of the magnitude, with which the overall female and male suicide rates would be reduced, i.e. approximately 54% and 32%, respectively, if suicide risks in these groups were reduced to the levels of the general population, under the assumption that mental disorders is the only causal factor determining those deaths. The measure of population attributable risk provides information about the reduction in the overall suicide rate, which one might achieve, if eliminating a causal risk factor. As such, the measure provides useful information for setting priorities regarding target groups for interventions.

With respect to types of mental disorders, cumulative incidences show that between 6-8% of males and 4-5% of females diagnosed with schizophrenia and affective disorders subsequently die by suicide (Nordentoft, et al., 2011, Aaltonen, et al., 2018). Elevated risks of suicide have been documented for many mental disorders and conditions (Table 4.2). Adjustment disorder, bipolar disorders, borderline personality disorders, PTSD, reaction to stress/adjustment disorders, recurrent depression, schizophrenia, and substance use disorders are some of the disorders, which are linked to the highest risks of suicide.

Table 4.1 Cumulative incidence rates for suicide among individuals with mental disorders.

Mental disorder	Cumulative incidence (in %) [†]
Any mental illness (Nordentoft, et al., 2011)	♂: 4.33 ♀: 2.10
Schizophrenia (Nordentoft, et al., 2011)	♂: 6.55 ♀: 4.91
Schizophrenia spectrum disorders (Nordentoft, et al., 2011)	♂: 5.90 ♀: 4.07
Depression* (Aaltonen, et al., 2018)	♂: 8.64 ♀: 4.14
Bipolar affective disorder* (Nordentoft, et al., 2011)	♂: 7.77 ♀: 4.78
Unipolar affective disorder* (Nordentoft, et al., 2011)	♂: 6.67 ♀: 3.77
Substance abuse at psychiatric department (Nordentoft, et al., 2011)	♂: 4.71 ♀: 3.34
Substance abuse at somatic hospital (Nordentoft, et al., 2011)	♂: 2.54 ♀: 1.71
Anorectic disorder (Nordentoft, et al., 2011)	♂: 5.61 ♀: 2.62
Acute stress reaction (Gradus, et al., 2015)	0.63
Adjustment disorder (Gradus, et al., 2015)	0.78
PTSD (Gradus, et al., 2015)	0.61

*Cumulative incidence for depression (ICD-9: 2961A-G, 2968A; ICD-10: F32-33) was estimated using data from Finland, while the bipolar (ICD-8: 296.19, 296.39; ICD-10: F30 and F31) and unipolar affective disorders (ICD-8: 296.09, 296.29, 296.89, 296.99, 298.09, 298.19, 300.49, 301.19; ICD-10: F32-F34, F38, F39) were estimated using data from Denmark.

[†] Unless otherwise stated, the estimates are for both sexes.

Individuals who had been admitted as an inpatient to a psychiatric ward within the preceding year were found to have a 44-fold higher suicide rate when compared to those who has never been in any type of psychiatric treatment and adjusted for socio-demographics and previous suicide attempt (Hjorthoj, et al., 2014). In comparison, those who attended the emergency department had a 27-fold higher suicide rate, while those in outpatient treatment and those in treatment with psychiatric medication had 8- and 5-fold higher rates, respectively.

Two time points are crucial in relation to psychiatric hospitalisation; when individuals are being admitted and discharged. Rates of suicide were found to be 200-300 fold higher during the first week of admission to a psychiatric ward when compared to those never admitted (Madsen, et al., 2020). Similarly, 200-400 fold higher rates of suicide were recorded during the first week after being discharged (Madsen, et al., 2020). The excess risks of suicide at the time of admission and discharge have been demonstrated across a range of disorders, including schizophrenia, affective disorders, substance abuse disorders, anxiety and stress reactions as well as personality disorders (Aaltonen, et al., 2018, Qin, et al., 2006). Although efforts, such as a risk assessment at the time of discharge, have been implemented, the suicide rates after discharge have not improved over recent decades in Denmark (Madsen, et al., 2020).

Time of the first diagnosis has been shown to be linked to elevated risks of suicidality for individuals with schizophrenia and depression (Aaltonen, et al., 2018, Reutfors, et al., 2009). Multiple admissions, for instance for schizophrenia, have also been linked to excess risk of suicide in Sweden (Reutfors, et al., 2009).

Suicide attempt is another important predictor of suicide. Approximately 3.0% of males and 1.4% of females who had a suicide attempt died by suicide within the following year (Tidemalm, et al., 2015). Being older than 35 years and having used a method with high case fatality in the initial attempt were identified as predictors of later suicide (Fedyszyn, et al., 2016).

Table 4.2 Risk estimates for suicide among individuals with mental disorders.

Disorder	Risk estimate (95% CI) [‡]	Adjusted for
Acute stress reaction (Petersen, et al., 2020)	IRR= 24 (10–53)	**
ADHD (Ljung, et al., 2014)	OR= 5.9 (2.5–14.3)	***
ADHD (Fitzgerald, et al., 2019)	IRR= 1.6 (1.2–2.3)	***
Adjustment disorder (Petersen, et al., 2020)	IRR= 12 (9.8–15)	**
Alcohol abuse or dependence (Tidemalm, et al., 2008)	♂: HR= 1.1 (1.0–1.3) ♀: HR= 1.7 (1.3–2.1)	**
Alcohol use disorder (Qin, 2011)	♂: IRR= 8.2 (7.5–8.9) ♀: IRR= 24.1 (20.5–28.4)	**
Anxiety disorder (Tidemalm, et al., 2015)	♂: HR= 1.9 (1.5–2.3) ♀: HR= 1.5 (1.3–1.9)	**
Autism spectrum disorder (Kölves, et al., 2021)	IRR= 2.1 (1.8–2.1)	**
Bipolar and unipolar disorder (Tidemalm, et al., 2008)	♂: HR= 3.5 (3.0–4.2) ♀: HR= 2.5 (2.1–3.0)	**
Bipolar disorders (Qin, 2011)	♂: IRR= 11.5 (9.3–14.2) ♀: IRR= 26.5 (21.5–32.5)	**
Borderline personality disorders (Qin, 2011)	♂: IRR= 16.6 (13.0–21.2) ♀: IRR= 55.5 (40.9–75.3)	**
Drug abuse or dependence (Tidemalm, et al., 2008)	♂: HR= 1.6 (1.1–2.2) ♀: HR= 2.3 (1.6–3.3)	**
Drug use disorders (Qin, 2011)	♂: IRR= 10.7 (9.0–12.7) ♀: IRR= 26.1 (21.2–32.1)	**
Obsessive–compulsive disorder (De La Cruz, et al., 2017)	OR= 7.5 (6.6–8.5)	***
Other affective disorder (Qin, 2011)	♂: IRR= 15.9 (14.2–17.9) ♀: IRR= 19.9 (17.8–22.2)	**

Other anxiety disorders (Qin, 2011)	♂: IRR= 7.2 (5.4–9.6) ♀: IRR= 9.8 (7.9–12.2)	**
Other depressive disorder (Tidemalm, et al., 2008)	♂: HR= 1.4 (1.2–1.6) ♀: HR= 1.7 (1.5–1.9)	**
Other personality disorders (Qin, 2011)	♂: IRR= 8.3 (7.5–9.2) ♀: IRR= 19.0 (17.0–21.2)	**
Other psychiatric disorders (Qin, 2011)	♂: IRR= 5.8 (5.2–6.6) ♀: IRR= 12.9 (11.4–14.6)	**
Other schizophrenic disorders (Qin, 2011)	♂: IRR= 11.7 (10.2–13.4) ♀: IRR= 17.5 (15.0–20.3)	**
Personality disorder (Tidemalm, et al., 2008)	♂: HR= 1.8 (1.4–2.3) ♀: HR= 1.5 (1.1–2.1)	**
PTSD (Petersen, et al., 2020)	IRR= 13 (4.3–42)	**
PTSD (Fox, et al., 2021)	♂: HR= 1.7 (1.3–2.1) ♀: HR= 2.6 (2.2–3.1)	***
Reaction to stress/adjustment disorders (Qin, 2011)	♂: IRR= 15.5 (13.9–17.3) ♀: IRR= 22.8 (19.9–26.0)	**
Recurrent depression (Qin, 2011)	♂: IRR= 21.4 (19.0–24.0) ♀: IRR= 29.7 (26.7–33.0)	**
Schizophrenia (Tidemalm, et al., 2008)	♂: HR= 4.1 (3.5–4.8) ♀: HR= 3.5 (2.8–4.4)	**
Schizophrenia (Qin, 2011)	♂: IRR= 9.5 (8.4–10.7) ♀: IRR= 19.3 (16.3–22.7)	**

Abbreviations: HR, Hazard ratio, IRR, Incidence rate ratio, OR, Odds ratio.

Symbol denotes level of adjusting covariates. [†] Adjusted for sex and age. ^{**} Adjusted for sex, age and sociodemographic covariates or other context-specific variables. ^{***} Adjusted for sex, age, sociodemographic covariates, and psychiatric comorbidity.

* Unless otherwise stated, the estimates are for both sexes.

4.3. PHYSICAL DISORDERS

A range of physical disorders have been linked to suicide (Stenager, et al., 2020). When reviewing evidence from the Nordic countries, a range of physical disorders have been examined in relation to suicide deaths (Table 4.3). Some of the highest suicide rates have been reported for fibromyalgia, amyotrophic lateral sclerosis (ALS), and Huntington disease. When compared to the general population, previous reports found suicide rates to be 30-90% higher among individuals with hospital-treated infections, heart diseases, head injury, stroke, cancer, chronic respiratory diseases, diabetes, and epilepsy. These disorders affect large segments of the population, implying that large numbers of suicide deaths can be related to those disorders (Petersen, et al., 2020, Erlangsen, et al., 2020b, Lund-Sørensen, 2016, Madsen, et al., 2018, Sariaslan, et al., 2022). Although population attributable risks have seemingly not been calculated for most physical disorders, it was found to be 10.1 for infections based on Danish data (Lund-Sørensen, 2016). Thus, underscoring the potential for suicide reductions if directing interventions towards this and other relatively large groups, as proposed by Roses' theorem of efforts directed towards large groups with a low excess risk may reduce a substantial number of cases (Rose, 1992).

In relation to the recent COVID-19 pandemic, it was found that individuals who had been hospitalized with SARS-CoV-2 infection did not have an elevated rate of suicide attempt when compared to the general population with no such infection. (Erlangsen, et al., 2023b).

The elevated risks of suicide linked to physical disorders have been attributed to the stressful experience of being diagnosed with a severe disorder (Stenager, et al., 2020). Depressions might also be an explanatory factor, as certain disorders, such as stroke and cancer, are linked to an excess risk of depression (Petersen, et al., 2020, Fang, et al., 2012). Level of pain might play a role for diseases, such as ALS (Erlangsen, et al., 2020b). In addition, chronic disorders may limit functional skills and lead to an increased dependency on others, which has been linked to suicide (Stenager, et al., 2020). Some physical disorders, such as traumatic brain injury, have been linked to changes in cognition and emotion regulations (Madsen, et al., 2018). Lastly, severity, as measured through multiple hospital contacts or more complicated stages of a disorder, has been linked to excess rates of suicide for multiple sclerosis and heart diseases (Petersen, et al., 2020, Erlangsen, et al., 2020b).

The time shortly after hospital contact for severe disorder has been associated with the highest increase in risk (Erlangsen, et al., 2020b, Fredrikson, et al., 2003). Thus, supporting the assumption that being diagnosed with a severe disorder can be distressing and might be an important time point for support.

Table 4.3 Risk estimates for suicide among individuals with physical disorders.

Physical disorder	Risk estimate (95% CI) †	Adjusted for
Excess risks:		
Fibromyalgia (Dreyer, et al., 2010)	SMR= 10.5 (4.5–20.7)	†
ALS (Erlangsen, et al., 2020b)	IRR= 4.9 (3.5–6.9)	***
Huntington disease (Erlangsen, et al., 2020b)	IRR= 4.9 (3.1–7.7)	***
Cardiac arrest with successful resuscitation (Petersen, et al., 2020)	IRR= 4.8 (3.6–6.3)	***
Cardiovascular diseases (Sariaslan, et al., 2022)	HR=3.3 (2.7–4.1)	***
Cancer (Fang, et al., 2012)	IRR=3.1 (2.7–3.5)	**
Diabetes (Sariaslan, et al., 2022)	HR=3.1 (2.3–4.2]	***
Diabetes (insulin-treated only (Niskanen, et al., 2018)	♂: OR=2.8 (2.0, 3.8) ♀: OR=1.8 (0.9, 3.4)	**
Chronic respiratory diseases (Sariaslan, et al., 2022)	HR=2.7 (2.1–3.4)	***
Guillain-Barré (Erlangsen, et al., 2020b)	IRR= 2.2 (1.2–4.1)	***
Multiple sclerosis (Erlangsen, et al., 2020b)	IRR= 2.2 (1.9–2.6)	***
Diseases of myoneural junction and muscle (Erlangsen, et al., 2020b)	IRR= 1.9 (1.8–2.1)	***
Head injury/Traumatic brain injury (Madsen, et al., 2018)	IRR= 1.9 (1.8–2.0)	***
Other brain disorders (Erlangsen, et al., 2020b)	IRR= 1.8 (1.5–2.1)	***
Polyneuropathy and peripheral neuropathy (Erlangsen, et al., 2020b)	IRR= 1.7 (1.6–1.8)	***
Epilepsy (Erlangsen, et al., 2020b)	IRR= 1.7 (1.6–1.8)	***
Parkinson disease (Erlangsen, et al., 2020b)	IRR= 1.7 (1.5–1.9)	***
Encephalitis (Erlangsen, et al., 2020b)	IRR= 1.7 (1.3–2.3)	***
Lyme Borreliosis (Fallon, et al., 2021)	IRR=1.7 (1.2–2.6)	***
Ulcerative coliti (Gradus, et al., 2010)	OR = 1.7 (1.3–2.1)	***
Sleep disorders (Kjaer Hoier, et al., 2022)	♂: IRR=1.6 (1.4–1.7) ♀: IRR=2.2 (1.8–2.6)	***
Meningitis (Erlangsen, et al., 2020b)	IRR= 1.6 (1.2–2.0)	***

Crohn's disease (Gradus, et al., 2010)	OR= 1.6 (1.1–2.3)	***
CNS infection (Erlangsen, et al., 2020b)	IRR= 1.6 (1.3–1.9)	***
Any heart disease (Petersen, et al., 2020)	IRR=1.5 (1.5–1.6)	***
Heart failure (Petersen, et al., 2020)	IRR= 1.5 (1.4–1.6)	***
Atrial fibrillation and flutter (Petersen, et al., 2020)	IRR=1.4 (1.3–1.5),	***
Tinnitus (Mølhave, et al.)	IRR=1.4 (1.2–1.6)	***
Intracerebral hemorrhage (Erlangsen, et al., 2020b)	IRR= 1.4 (1.1–1.6)	***
Cerebral infarction (Erlangsen, et al., 2020b)	IRR=1.3 (1.1–1.6)	***
Acute myocardial infarction (Petersen, et al., 2020)	IRR= 1.3 (1.2–1.4)	***
Stroke (Erlangsen, et al., 2020b)	IRR: 1.3 (1.2–1.3)	***
Inflammatory bowel disease (Ludvigsson, et al., 2021)	HR=1.2 (1.1–1.4)	†
Visual impairment (Meyer-Rochow, et al., 2015)	SMR= 1.3 (1.1–1.6)	†
Hashimoto's (Heiberg Brix, et al., 2019)thyroiditis	HR=1.3 (>1.0–1.6)	***
Angina pectoris (Petersen, et al., 2020)	IRR= 1.2 (1.1–1.3)	***
Allergy (air pollen counts of 30–100 (Qin, et al., 2013)	RR=1.1 (1.1–1.2)	**
Chronic pain (Vaegter, et al., 2019)	SMR=7.3 (2.7–15.9)	†
Infection (Lund-Sørensen, 2016)	IRR=1.4 (1.4–1.5)	***
No excess risk:		
Organ transplant (Gradus, et al., 2019)	HR= 1.8 (0.9, 3.6)	**
Coeliac disease (Ludvigsson, et al., 2011)	HR = 1.4 (1.0–2.0)	***
Congenital heart disease (Udholm, et al., 2020)	HR=0.8 (0.5–1.4)	†
Lower risk:		
Alzheimer disease (Erlangsen, et al., 2020b)	IRR=0.2 (0.2–0.3)	***
Intellectual disabilities (Erlangsen, et al., 2020b)	IRR=0.6 (0.5–0.8)	***
Dementia (Erlangsen, et al., 2020b)	IRR=0.8 (0.7–0.9)	***

Abbreviations: HR, Hazard ratio, IRR, Incidence rate ratio, OR, Odds ratio, SMR, Standardized Mortality Ratio.

Symbol denotes level of adjusting covariates. † Adjusted for sex and age. ** Adjusted for sex, age and sociodemographic covariates or other context-specific variables. *** Adjusted for sex, age, sociodemographic covariates, and psychiatric comorbidity. ‡ Unless otherwise stated, the estimates are for both sexes.

4.4. STRESSFUL LIFE-EVENTS

Stressful life-events may lead to an excess risk of suicide, which has been demonstrated for a large number of events (Table 4.4). Stressful life-events may happen unexpectedly and require adaptation. Albeit suicide deaths are not always preceded by mental disorders, stressful life-events may increase individual's susceptibility to psychological stress, which may lead to mental disorders, and suicidal behaviour (Erlangsen, et al., 2017a, Howarth, et al., 2020). As mentioned in Sections 4.2 and 4.3, diagnosis of mental and physical disorders may constitute stressful life-events in the own right.

Having been exposed to a range of childhood adversities, including death in the family, financial and residential instability, was found to be associated with higher rates of subsequent suicide when compared to individuals not exposed to such events in Sweden (Björkenstam, et al., 2017). Based on Greenlandic data, childhood adversities, such as growing up in a poor emotional environment or a home with alcohol problems as well as experiences of neglect or sexual abuse, were predictive of later suicidal behaviour (Seidler, et al., 2023b). Other early life factors, such as being born by a mom who was below the age of 25 years at the birth or having been placed outside the home by the authorities, were also significant predictors of suicide (Sujan, et al., 2022, Wall-Wieler, et al., 2018).

Bereavement, in the form of the death of a parent or close relative, has been linked to an excess risk of suicide, especially in the first weeks after the loss (Mogensen, et al., 2016a, Burrell, et al., 2018).

Children, siblings and partners who have been bereaved by suicide have higher rates of suicide themselves when compared to the general population (Erlangsen, et al., 2017a, Ranning, et al., 2022a, Tidemalm, et al., 2011). The risk of suicide seems to be higher among first-degree relatives and partners than among distal relatives, although both groups have elevated risks (Tidemalm, et al., 2011). Further, evidence suggest that children who were exposed to a parental suicide at a young age will themselves have higher rates of suicide than children exposed at older ages (Ranning, et al., 2022b). The familial transmission of suicide may be due to genetic factors, that are likely to be related to mental disorders, but also social role modelling may play a role (Ranning, et al., 2022b, Kendler, et al., 2021). Experiencing a suicide attempt of a parent has also been linked to a higher risk of suicide in children when compared to children who were not exposed (Ranning, et al., 2022a).

Perceived job insecurity and loss of job have been linked to elevated risks of suicide (Blomqvist, et al., 2022). Experiences of financial hardship, such as financial debt and being evicted from one's home, have been identified as predictors of suicide (Rojas, 2021, Rojas & Stenberg, 2016). In addition, elevated rates of suicide were found among individuals with frequent residential relocation (Qin, et al., 2009).

Suicide rates have been observed to increase during recessions in countries outside the Nordic region, for instance Greece and Ireland (Economou, et al., 2011, Corcoran, et al., 2015). In Iceland, researchers did not find a statistically significant increase of suicides during periods of recession (Ásgeirsdóttir, et al., 2020, Óskarsson, et al., 2019). Also, suicide rates did not increase during a recession in 1993-1996 in Sweden. Still, the suicide rate among unemployed increased over the subsequent years; suggesting a possible late effect. The Nordic social welfare models has been hypothesised to act as a buffer for adverse effects of economic crises (Garcy & Vagerö, 2013).

There are only few examples of how natural disasters may impact risks of suicide from the Nordic literature on suicide prevention. Swedish residents who were evacuated from the 2004 tsunami in Southeast Asia had a higher rate of suicide attempts when compared to other Swedish residents, while accounting for relevant confounders (Arnberg, et al., 2015). Other crises situations are witness by military conscripts; veterans who reported combat exposure during military deployment had higher risks of suicide attempt, yet this association was found to be explained through presence of PTSD and other mental disorders (Vedtofte, et al., 2021). Findings from studies of Norwegian and Swedish peacekeeping forces and other deployed military troops have not shown higher rates of suicide than for the general population (Michel, et al., 2007, Thoresen, et al., 2003).

Personal stressors, include fertility problems, which seemingly are linked to a higher risk of suicide among females (Kjaer, et al., 2011). Although women who underwent an induced abortion had higher rates of suicide than women in the reproductive ages in general, the elevated rate was found to decrease after introduction of better care guidelines in Finland (Gissler, et al., 2015).

Being bullied have been linked to elevated risks of self-harm (Landstedt & Gillander, 2011). This finding has been confirmed in workplace settings, where bullying was associated with a higher risk of suicide when compared to individuals who did not report bullying (Conway, et al., 2022). In addition, victims of domestic violence, as reported in a Swedish household survey, were found to have higher risks of attempted suicide (Dufort, et al., 2015). Based on Norwegian survey data, adolescents who self-reported having been subjected to sexual or physical abuse had an increased risk of self-harm when compared to peer with no such exposure (Mossige, et al., 2016). This is supported by data from Denmark where female victims of sexual offences were found to have a 30-fold higher suicide rate when compared to age, marital status and income level-matched controls (Gradus, et al., 2012). A systematic review of Greenlandic studies demonstrated evidence that exposure to sexual and physical assaults was associated with suicidal behaviour (Seidler, et al., 2023b).

Refugees are likely to experience traumatizing events both in their home country, during their migration, and after arrival (Khan Amiri, et al., 2021). Nevertheless, refugees were in general not found to have higher suicide rates when compared to the general population in Denmark, Norway and Sweden (Khan Amiri, et al., 2021, Geirsdottir, et al., 2021, Hollander, et al., 2020, Amin, et al., 2021a, Amin, et al., 2021b). An exception is unaccompanied minors who seek asylum; this group was found to have higher suicide rates when compared to youth in Sweden (Mittendorfer-Rutz, et al., 2020). It is possible that cultural differences are responsible for the lower prevalence of suicide among asylum seekers, given that many derive from countries with general lower rates of suicide.

Individuals who at some point experienced homelessness were shown to have elevated risks of suicide, in particular in relation to mental disorders (Nielsen, et al., 2011).

People who were convicted of criminal acts or incarcerated were found to have higher suicide rates than found for the general population in Denmark, Iceland, Norway, and Sweden (Morthorst, et al., 2021a, Stenbacka, et al., 2014). Among males who had been found guilty of a homicide, a particularly high rate of suicide was found within the first years of the verdict (Jokinen, et al., 2009). Also, juvenile delinquency, which led to a verdict, has been associated with elevated risks of later suicide when compared to those with no criminal conviction (Bjorkenstam, et al., 2011). In Sweden, the risk of suicide remained elevated after release from incarceration; thus, underscoring the need to be attentive towards mental health and substance use disorders in this group also after being released (Haglund, et al., 2014). This finding is supported by Danish data, which indicated an excess risk of suicide after release from prison when compared to individuals with no contact to the criminal justice system (Webb, et al., 2011).

Table 4.4 Stressful life-events associated with excess risks of suicidal behaviour.

Stressful life-events
• Asylum-seekers (unaccompanied minors) (Mittendorfer-Rutz, et al., 2020)
• Childhood adversities (Björkenstam, et al., 2017)
• Combat exposure (Vedtofte, et al., 2021)
• Death of parent or family relative (Mogensen, et al., 2016a, Burrell, et al., 2018, Burrell, et al., 2021)
• Divorce (Fjeldsted, et al., 2016)
• Fertility problems (Kjaer, et al., 2011)
• Financial hardship (Rojas, 2021, Rojas & Stenberg, 2016)
• Homelessness (Nielsen, et al., 2011)
• Incarceration (Morthorst, et al., 2021a)
• Induced abortion (Gissler, et al., 2015)
• Job insecurity (Blomqvist, et al., 2022)
• Natural disasters (Arnberg, et al., 2015)
• Loss of job (Blomqvist, et al., 2022)
• Onset of chronic disorder (Stenager, et al., 2020)
• Onset of mental disorder (Aaltonen, et al., 2018, Reutfors, et al., 2009)
• Residential instability (Qin, et al., 2009)
• Release from prison (Webb, et al., 2011)
• Suicide of parent or family relative (Erlangsen, et al., 2017a, Ranning, et al., 2022a, Tidemalm, et al., 2011)
• Suicide attempt of parent (Ranning, et al., 2022a)
• Victim of bullying (Landstedt & Gillander, 2011, Conway, et al., 2022)
• - Victims of violence and sexual assault (Dufort, et al., 2015, Gradus, et al., 2012)

4.5. PSYCHOLOGICAL FACTORS

Numerous psychological factors have been identified in international studies. However, relatively little evidence is available from the Nordic region. Still, it has been found that resilience, measured as the ability to cope with psychological stressful situations among young males through semi-structured interviews with a psychologist at conscription, was protective of suicide attempts later in life when compared to siblings and cousins in Sweden (Lannoy, et al., 2022). Severe symptoms of feeling, down, anger, and trouble falling asleep, as reported by males during conscription, have been linked to later suicide in adjusted analyses (Hogstedt, et al., 2018). In addition to these measures, severe symptoms of headache and being nervous were linked to later suicide attempts (Hogstedt, et al., 2018). Moral values, endorsing authority and loyalty, as assessed in a survey of Icelandic youth, was also found to be associated with a lower probability of suicide attempts (Silver, et al., 2021).

4.6. BIOLOGICAL FACTORS

Relatively little is known regarding biological factors for suicide. Genetic liability, mainly mitigated through a genetic disposition for mental disorders whose association with suicide is well-established, has been suggested (Kendler, et al., 2021, Erlangsen, et al., 2018b). Yet, the evidence is meagre.

Suicide has been shown to vary by season, for instance, in Finland, Norway, and Sweden where rates were found to peak during May and the summer months (Holopainen, et al., 2013, Bramness, et al., 2015). Although no clear causal mechanism has been demonstrated, changes in temperature, hours of sunshine, ambient warming and global radiation have been suggested as explanations for this (Hiltunen, et al., 2011).

4.7. HEALTHCARE CONTACTS

Although about half of those who die by suicide have not been in touch with psychiatric care prior to dying by suicide, a significant proportion have attended their primary care provider in the months before dying.

In Sweden, 72% of individuals who died by suicide had been in contact with their primary care provider within the last 12 months (Bergqvist, et al., 2022). In Denmark, 83% of those who died by suicide had seen their primary care physician within the last year. This was significantly more than an age- and sex-matched comparison group where 76% had attended their primary care physician. Also, as many as 60% had attended care within the last four months (Pedersen, et al., 2019). In Greenland, one third of individuals who died by suicide were found have

had contact to healthcare providers within the last 6 months (Grundsøe & Pedersen, 2019). Norwegian findings revealed that 74% and 86% of Norwegian males and females were in contact with a primary health care provider within 6 months of dying by suicide. In comparison, just 68% of male and 71% of female immigrants were in contact with primary health care providers in the last 6 months before dying by suicide (Øien-Ødegaard, et al., 2019). Using a more recent scale, 66% of those who died by suicide during 2016-2018 in Finland were found to have been in contact with primary or specialized care during the last 30 days. As many as 21% had been in contact on the actual day where they died by suicide (Partonen, et al., 2022).

Concerningly, Swedish researchers detected significant deficiencies in the healthcare, which was provided to more than half of the patients who saw a primary health care provider prior to suicide (Roos Af Hjelmsäter, et al., 2019).



5. LEGISLATION

Suicide is seldom a rational choice. People in a suicidal crisis often experience psychological stress, i.e. an immense psychic pain, are extremely vulnerable, and ambivalent. They may require professional care to help mitigate their suicide thoughts. Legislative measures can help decrease stigma and facilitate help-seeking (World Health Organization, 2021a). The Global Mental Health Action Network initiative, an international working group, which includes the World Health Organisation, actively encourages the decriminalisation of suicide in those countries where this is still a concern (United for Global Mental Health, 2021). In the Nordic countries, suicide and suicidal behaviour is not criminalized (Mishara & Weisstub, 2016).

Box 5.1 Terminology

Palliative treatment: a holistic treatment approach aiming to improve quality of life among individuals who may suffer from a life-threatening disease, while reducing pain and other symptoms.

Ending life-prolonging treatment: withholding or withdrawing potentially life-prolonging treatment, while taking into account that this might hasten the patient's death.

Hastened death: administration of pain-relieving medication, such as morphine, while taking into account that this might hasten the patient's death.

Physician-assisted suicide: when a patient's death is facilitated by a physician who provides the necessary means to enable the patient to perform the life-ending act, i.e. the suicidal act is considered to be performed by the patient.

Euthanasia: the termination of a patient's life at their request by a physician.

Although frequently debated, physician-assisted suicide (see Box 5.1 for definition) remains not legalised in any of the Nordic countries. In fact, the Penal Code of several Nordic countries list assisted suicide as illegal (Mishara & Weisstub, 2016). Palliative care provides an important alternative for individuals with severe pain and complex disorders. The range of treatment options and availabilities have improved over recent decades, for instance in Norway where palliative care has been implemented into public health care system (Kaasa, et al., 2007). Findings from a non-representative survey of medical doctors suggest that administration of medication for alleviating pain and other symptoms with possible life-shortening effects, i.e. hastened death, may occur in 0.4-2.2% of all deaths in Denmark and Sweden (Bilsen, et al., 2006).

Expert statements confirm the existence of palliative treatment in the Nordic countries. However, it is possible that these treatment offers might not be widely known in the general population. It is likely that individuals who may consider terminating their lives experience ambivalence. For this reason, it is important to ensure that they know about other options, for instance for securing relief of pain while remaining in control of the treatment.



6. REGISTRATION AND MONITORING OF SUICIDE AND SUICIDE ATTEMPT

Suicide deaths are recorded as a part of vital statistics in the Nordic countries. Causes of death are determined by a medical doctor, which is likely to improve the validity.

6.1. REGISTRATION OF SUICIDES

To determine the cause of death, the medical doctor may request a medico-legal examination or an autopsy. Based on a sample study of suicides in Denmark, Norway and Sweden, the percentage of autopsies, which were performed to determine the cause of death in incidents suspected to be suicide deaths, was seemingly higher in Sweden (81%) than in Norway (54%) and Denmark (32%) (Tøllefsen, et al., 2015). Still, when asking experts from the respective countries to re-evaluate the cause of death for a sample of potential suicides, accidents and undetermined deaths, these evaluated that 77%, 87%, and 92% of suicides had been recorded correctly in Sweden Norway, and Denmark, respectively. Thus, suggesting a good level of reliability in the registration of suicide deaths (Tøllefsen, et al., 2015).

Suicide deaths are recorded in the national Cause of Death register by public health authorities. Following the 10th revision of International Classification of Diseases and related Health Problems (ICD-10), specific codes are used to classify suicide deaths (ICD-10: X60-X84, Y87.0) (World Health Organization, 2021b). In Sweden, an additional category, which often is referred to as 'undetermined deaths' (ICD-10: Y10-Y34, Y87.2) has been suggested to also include suicide deaths (Tøllefsen, et al., 2015, Björkenstam, et al., 2014). In relation to suicide deaths, the category of undetermined deaths is proportionally larger in Sweden than in Denmark and

Norway (Tøllefsen, et al., 2015). This implies that Swedish register-based studies often tend to be based on both suicide and undetermined deaths, while Danish, Finnish and Norwegian register-based studies only consist of cases classified as suicide deaths (Erlangsen, et al., 2020b, Burrell, et al., 2018, Aaltonen, et al., 2019, Mogensen, et al., 2016b). For this reason, figures on suicide deaths presented in this report from Sweden are based on both suicide and undetermined deaths, while figures for all other countries are solely based on suicide deaths.

Consulted experts from the Nordic countries unanimously confirmed that the registration of suicide death was considered to be reliable in their country (Table 6.1). The yearly number of suicide deaths was also assessed on a regular basis. As a part of the national membership obligations, Denmark, Finland, Iceland, Norway and Sweden report the yearly number of suicide deaths to the WHO Mortality Database, thus, contributing to an international monitoring of suicide. Aaland Islands, Faeroe Islands, and Greenland do not report to the WHO Mortality Database. An international comparison conducted by the Global Burden of Disease Study revealed that the suicide rate in Greenland was the highest suicide rate in the world (Naghavi, 2019). For this reason, it would be relevant that data from Greenland are considered in reports and resources on suicide prevention published by the WHO (World Health Organization, 2014, World Health Organisation, 2021).

Table 6.1 Information regarding registration of suicide and suicide attempts.

Country	Is the registration of suicide deaths evaluated as reliable?	Ongoing monitoring of suicide deaths? *	Ongoing monitoring of suicide attempts? *	Reporting to the WHO Mortality Database?
Denmark	Yes	Yes	Yes	Yes
Faroe Islands	Yes	Yes	No	No
Finland	Yes	Yes	No	Yes
Greenland	Yes	Yes	No	No
Iceland	Yes	Yes	No	Yes
Norway	Yes	Yes	No	Yes
Sweden	Yes (incl. Y10-Y34)	Yes	No	Yes
Aaland	Yes	Yes	No	Yes

* Defined as an implemented procedure, which produces yearly updated statistics.

6.2. REGISTRATION OF SUICIDE ATTEMPTS

Suicide attempts may be identified through presentations to emergency departments (ED) or intensive care units and recorded in electronic hospital registers. Nevertheless, there seems to be a general consensus that suicide attempts are under-recorded in hospital registers (Morthorst, et al., 2016, Qin & Mehlum, 2020). To estimate the true figure of hospital presentations for suicide attempts, different approaches have been used in the Nordic countries (see Box 6.1 and 6.2).

Almost none of the Nordic countries conduct an annual monitoring of suicide attempts. Systematic surveillance of suicide attempts have been recommended by the WHO as essential for guiding preventive efforts and providing an option for monitoring these activities (World Health Organization, 2016).

Box 6.1 *Danish algorithm for identifying suicide attempts in hospital records*

Two measures are used to identify suicide attempts in the Danish National Patient Register; namely suicide attempt and probable suicide attempt.

A hospital recorded event is considered to be a suicide attempt if at least one of two markers is recorded: 1) reason for contact is listed as being suicide attempt; and 2) a main or a secondary diagnosis of intentional self-harm (ICD-10: X60-X84).

Probable suicide attempt is defined, in addition to the inclusion criteria listed above, as: 3) a main diagnosis of a psychiatric disorder (ICD-10: F00–F99) and a supplementary diagnoses of lesion to the lower arm (ICD-10: S51, S55, S59, S61, S65, S69) or poisoning (ICD-10: T36–T50, T52–T60) where both diagnoses are listed in the same record; or 4) poisoning; defined as a main diagnoses of poisoning with weak analgesics, narcotics, psychotropic drugs, or carbon monoxide (ICD-10: T39, T40 except T401, T42, T43, T58).

Source: Morthorst et al, 2016

Box 6.2 *Norwegian algorithm for identifying suicide attempts in hospital records*

Data on all hospital records for somatic treatment due to external causes were retrieved from the Norwegian Patient Registry. A sophisticated procedure was applied to exclude records of indirect contacts, planned treatments, fatal injuries and poisonings, injuries, which were clearly accidental or inflicted by others, secondary outcomes of other medical conditions, and contacts of children younger than 10 years of age and non-residents.

For the remained records, three measures were applied hierarchically to identify probable incidents of suicide attempt: 1) All treatment contacts with a comorbid diagnosis of DSH or suicide attempt (ICD-10: X6n, Y87.0); 2) Treatment contacts with a diagnosis of poisoning (ICD-10: T4n, T50–T55, T57–T60, T62, T62, T65), open wounds (ICD-10: S10, S11, S15, S17, S19, S21, S25–27, S31, S35–39, S41, S45, S50–51, S54–56, S59, S61, S64–66, S69, S71, S88, T01, T09, T11) or suffocation/drowning or burning (ICD-10: T18, T19, T27–28, T31, T68, T69, T71, T95) and a comorbid diagnosis of mental or behavioral problems (ICD-10: F0–F9); 3) Treatment contacts with poisoning (ICD-10: T4n, T50), which had not been identified in the above listed measures.

Source: Qin et al, 2020

6.3. REAL-TIME DATA AND EXPANDED DATABASES

The COVID-19 pandemic demonstrated the usefulness of real-time data, i.e. data that is available for publication immediately after being collected. Although the registration of suicide deaths is conducted electronically and the data is transferred to the national offices administrating the Cause of Death registers, data on suicides are often first made available with 1–3 years of delay. This is unfortunate from a suicide preventive perspective. Having real-time data – or updates of the preceding years' numbers published as early as possible in the new calendar year would allow policymakers and researcher to monitor whether the national goals for suicide prevention are being reached and whether new risk groups or suicide methods are emerging.

The Nordic register data offer unique opportunities for monitoring of suicide and suicide attempts for high-risk groups, such as individuals with mental and chronic disorders, unemployed, divorced, widowed, disability retirees. The Danish FORSAM-database is a first initiative in this direction and provides data on suicide and suicide attempt on municipal, hospital cluster, regional, and national level. It has been developed in collaboration with stakeholders within suicide prevention (www.forsam.dk). In Norway, the Norwegian Surveillance System for Suicide in Mental Health and Substance Use Services has been established to monitor all suicide deaths, which occur within one year after contact with mental health and substance misuse services (<https://www.med.uio.no/klinmed/forskning/sentre/nssf/kartleggingssystemet/>).



7. NATIONAL EFFORTS OF SUICIDE PREVENTION

A national plan for suicide prevention is a systematic approach to set up a comprehensive and integrated national response to suicidal behaviour (Platt & Niederkrotenthaler, 2020). WHO recommends countries to have a national plan for suicide prevention (World Health Organization, 2021a). A strong rationale for a national plan is the fact that it enables the country to coordinate and prioritize efforts of suicide prevention.

As many as 40 countries in the world may currently have a national plan for suicide prevention (Schlichthorst, et al., 2022). In the Nordic countries, Finland, Greenland, Iceland, Norway, Sweden, and Aaland Islands have national plans, which are currently in effect (Table 7.1). A plan has just been passed in the Greenlandic parliament and, in Denmark, funds for drafting of a national plan for suicide prevention have recently been allocated (Ministry of the Interior and Health, 2022). The main initiatives of the national plans are described in this section.

The WHO has provided guidance for development of national plans (World Health Organization, 2021a, World Health Organization, 2018). A national plan should apply a strategic and systematic approach. It needs to have clear objectives and further, it is important to specify targets, indicators, timelines, milestones, designate responsibilities and allocate financing. Although it may be anchored in the health sector, it is important that it involves multiple sectors, such as social welfare, education, law, defence, politics, and the media. For a sustainable effort, it will also be important to ensure long-term anchorage of new initiatives. As laid out in the LIVE LIFE guide by the WHO, a range of elements should be included or considered when drafting a national plan (see Box 7.1).

Box 7.1. *Recommended elements in a national plan for suicide prevention:*

- Identify stakeholders.
- Conduct a situation analysis.
- Evaluate available resources.
- Secure political support.
- Address stigma.
- Increase awareness.
- State clear objectives.
- Identify risk and protective factors.
- Select effective interventions.
- Improve quality of registration and conduct research.
- Conduct monitoring and evaluation.

Source: World Health Organization (2018).

An increasing body of evidence exists regarding the effect of national plans of suicide prevention. A statistical meta-analysis of the suicide rate in the years prior to and after the introduction of national plans for suicide prevention in 29 countries revealed ambiguous findings; while the suicide rate decreased in some countries, it remained unchanged or increased in others. The overall result of the meta-analyses showed no significant difference between pre- and post-national plan with respect to suicide rates (Schlichthorst, et al., 2022). Data from Norway and Sweden were included in the analyses and, for both countries, no significant change was found. This is further supported by an assessment of the national plan introduced in Sweden in 2008, which was followed by slight increases in the suicide rates of different age groups (Baran & Kropiwnicki, 2015).

Although there may be limited evidence for the effectiveness of a national plan for suicide prevention, having a national plan is still a good idea. A comprehensive national strategy for suicide prevention will facilitate coordination and set priorities for target groups and goals. Being backed by the government, a national plan is likely to stand better chances of being implemented, as stakeholders and collaborators might be easier motivated. Of course, it is important to ensure that there is funding to carry out the proposed efforts.

This section provides an overview and summaries of the current status of national efforts for suicide prevention in each of the Nordic countries.

7.1. KEY ELEMENTS OF SUICIDE PREVENTION IN THE NORDIC COUNTRIES

Based on stakeholder interviews, information on key elements regarding national suicide preventive efforts were collected from established researchers within suicide prevention in the respective countries.

Finland was one of the first country in the world to initiate national efforts for preventing suicide; in 1987-1988, a national psychological autopsy study was conducted to gain a better understanding of the reasons for suicide (Henriksson, et al., 1993). Now, the majority of Nordic countries and nations have a national plan for suicide prevention. Most countries have first issued national plans for suicide prevention within the last 20 years. Following the general guidelines, national plans tend to be multi-level and multi-modal, acknowledging the fact that suicide is a multi-factorial outcome and that different interventions may address different high-risk groups and that different strategies generally are needed.

An important aspect of the national plans is that they are backed by funding. If an ambitious plan is not supported by sufficient funds to secure its realisation, goals might not be reached. While some countries, have earmarked funds set aside for the national plan for suicide prevention, in other countries the goals of the national plan are expected to be achieved through existing and available resources, for instance, within mental health care. Despite similarities, the infrastructure and funding of mental health care differs across the Nordic countries. For this reason, it is not feasible to draw meaningful comparisons between the level of funds allocated to suicide prevention in the individual countries. In general, suicide preventive efforts tend to be anchored within public mental health care, while some services are provided by NGOs, which may be partly funded through public sources.

To ensure an effective and sustainable national effort, it is essential with long-term planning and allocation of funds. It might take years to ensure that new tools for suicide prevention are implemented into clinical or general practice. Evaluating what is sufficient funds, depends on the general support for mental health care and other funding mechanisms, which are allocated to related fields. In addition to implementing better practices, funds allocated for research may secure evidence-based documentation of effects. Although it is important to document the effectiveness of national plans on a whole, recent findings mentioned above illustrate that a first step might be to secure insights into what elements of a national plan are responsible for suicide reductions. The International Association of Suicide Prevention (IASP) has launched a worldwide network, Partnerships for Life, which facilitates communication and collaboration of stakeholders (<https://www.iasp.info/partnershipsforlife/>).

In the Nordic countries, telephone helplines for suicide prevention are found in all countries. Many countries have several helplines for different target groups, for instance, children and youth as well as people with mental disorders, while countries with fewer inhabitants tend to have one a central helpline, which addresses all aspects of mental health. Health care providers, in particular psychiatric staff, are reported to be knowledgeable about risk assessment and safety planning. However, seemingly hardly any of the Nordic countries have follow-up routines for individuals who present with a suicide attempt in a somatic emergency department. As many as 16% of individuals who have a suicide attempt, repeat the act within the next 12 months and 1.6% with a fatal outcome (Carroll, et al., 2014). For this reason, it is important to ensure that support (and better coping strategies) are available for this group. In some countries, specialized outpatient teams provide psychosocial therapy for individuals at risk of suicide.

In those of the Nordic countries with a relatively small population, suicide intervention is indirect, and efforts focused mental health care in general. The fact that suicide is a relatively seldom phenomenon, for instance, in Faroe Islands, can introduce a different problem; people who experience suicide thoughts might not know where to find help due to little public awareness about suicide. Another challenge is seen in remote areas, for instance in Greenland where large geographical distances and relatively few psychiatric services means that individuals with a suicide attempt might have to travel very large distances for attending care. Further, psychological services might only be available in Danish, which could be a barrier for some.

People bereaved by suicide have themselves elevated risks of suicidal behaviour (Ranning, et al., 2022b). Although this is a well-recognised problem, much of the support for this group is placed in the hands of NGOs, e.g. through peer-support groups (Higgins, et al., 2022). First-responders, such as police and forensic medics, have relatively little experience with how to best provide support for bereaved by suicide. In Iceland, efforts to coordinate support after a loss to suicide is mentioned in the national plan for suicide prevention and one of the new initiatives include training of first responders. Similarly, the latest national plan for suicide prevention in Sweden identified bereaved by suicide as a priority area and guidelines for how to support bereaved by suicide have now been developed (Folkhälsomyndigheten, 2023).

Table 7.1 National suicide prevention.

	Den- mark	Faroe Islands	Fin- land	Green- land	Ice- land	Nor- way	Swe- den	Aaland Islands
National plan								
Is there a national plan for suicide prevention?	In planning	No	Yes	Yes	Yes	Yes	Yes	Yes
Services								
Is there a telephone helpline for suicide prevention?	Yes	Yes ^a	Yes	Yes	Yes ^a	Yes	Yes	Yes ^b
Is a risk assessment generally being conducted when persons who present in the somatic/psychiatric Emergency Department with a suicide attempt?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is follow-up efforts implemented for people who present with a suicide attempt in the somatic Emergency department?	No	Yes	No	Yes	No	No	No	No
Does there exist specialized outpatient programs for individuals after a suicide attempt, e.g. psychosocial therapy/DBT?	Yes	No	Yes	Yes	In planning	Yes	Yes	
Is clinical staff in psychiatric setting knowledgeable about tools for suicide prevention, such as risk assessment and safety plans?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Does your country have support options for people who are bereaved by suicide?	Yes ^c	Yes ^d	Yes ^c	Yes ^d	Yes ^d	Yes ^c	Yes	Yes ^e
Are there any school-based efforts of suicide prevention?	In progress	No		No	Being tested	Yes	Yes	

^a There is a national helpline for mental health, which includes suicide prevention.

^b A helpline in Sweden is being used.

^c NGO-based support specifically for people bereaved by suicide is available.

^d NGO-based support for people bereaved by any cause of death is available.

^e NGO-based support for people affected by mental health

7.2. DENMARK

Denmark has previously had a national plan for suicide prevention during 1999-2005 (Sundhedsstyrelsen, 1998). One of the main achievements of this plan was the introduction of Suicide Prevention Clinics as a national offer for people at risk of suicide, which is situated in outpatient clinics (Erlangsen, et al., 2014). A National Partnership for Suicide Prevention was formed in 2017 under the auspice of the Danish Health Agency (The Danish Health Authority, 2017). In 2022, a 10-year plan for improvements in psychiatric care was passed in the Danish Parliament (Ministry of the Interior and Health, 2022). The plan included funds to draft a national plan for suicide prevention. During 2023, the National Partnership for Suicide Prevention was involved in developing the national plan and it is expected that the plan will be passed by the Danish Parliament in the coming year. The financial bill of 2024 has allocated funds for suicide prevention from 2024 to 2030.

7.3. FAROE ISLANDS

In the Faroe Islands, suicides are relatively seldom, almost sporadic. The Faroese Health and Social Systems are parts of the Home rule agreement, but are situated under the Danish Health Authority, and the Faroe Islands follow Danish guidelines. There is no specific national plan for suicide prevention. Due to the few incidents, suicide preventive efforts are included in the more general health plans. This also applies to treatment options, telephone helplines, and other activities. Access to psychiatric care is free of charge for all. Since 2020, psychological therapy has become publicly subsidized for individuals aged 15-35 years. Support services consist of telephone helplines run by the Psychiatric Society (Sinnisbati) and by the Children's Help Fund (Barnabati). For drug and alcohol misuse disorders, there are special treatment centers and help groups, run by the two private organizations, Blue Cross (Bláikrossur) and Heilbrigdi (AA and Minnesota-model) as well as a shelter, run by Salvation Army (Frelsunarherurin). Religious affiliation is common and many churches offer informal social groups. On Faroe Islands, the extended family has a strong protective effect. Restrictive laws on access to medical products, illegal drugs other poisons, and to guns are similar to Danish laws. Restrictive rules exist regarding alcohol sales. Faroese have access to Danish helplines, including the one for suicide prevention (Livsliinien).

7.4. FINLAND

Finland was the first country in the world to initiate national efforts for suicide prevention. The National Suicide Prevention Project (1986–1996) was overall found successful (World Health Organization, 2018). However, for over two decades after the pioneering project Finland had no national plan for suicide prevention. This changed in 2020, when The Mental Health Policy Strategy 2020-2030 was introduced. One of the sections included is the Suicide Prevention Program for 2020-2030. It consists of 36 measures, and proposals for monitoring of indicators. The main goals are to: 1) increase awareness among hospital staff regarding suicide attempt to lower stigmatisation, 2) apply means restriction, 3) ensure easy access to suicide preventive care, 4) make access to treatment for mental disorders uncomplicated and provide support for relatives, 5) ensure risks assessment of individuals with substance misuse disorders, 6) implement of media guidelines, and 7) monitor risk groups with regard to suicide and suicide attempt (Partonen, 2020). The Ministry of Social Affairs and Health also funds, via Finnish Institute for Health and Welfare, five regional suicide prevention projects.

7.5. GREENLAND

In Greenland, the previous national plan expired in 2019. Gatekeeper training of Inuit frontline workers to provide tools for risk assessment and conversation techniques was one of the key components of the previous strategy (Bloch, et al., 2021). More than 500 frontline workers in all five municipalities have been trained through this course. The newly accepted national plan, Qamani, contains four target areas: 1) referral of people at risk of suicide; 2) engaging communities in suicide prevention; 3) improving mental wellbeing in schools; and 4) reducing stigma (Greenlandic Parliament, 2023). More specifically, the goals are to, firstly, set up chains of care to ensure that all individuals at risk of suicide have access to care, for instance by strengthening locals in the community. Secondly, provide psychoeducation and support regarding alcohol consumption. Thirdly, provide gatekeeper training for staff at schools and educational institutions. Fourth, initiate media campaigns to address stigma and tabu, for instance in television. The plan extends existing efforts to improve healthy pathways through life for young individuals in Greenland.

A major challenge in Greenland is the scarcity of mental health professionals. The large geographical distances can imply an unrealistically long travel distances, for receiving adequate care after a suicide attempt. To compensate, training strives to strengthen local community-based support options. Gatekeeper training is sustained through Inuit instructors who train gatekeepers in their mother tongue, kalaallisut, in regions where the majority speak the language (Kristensen, 2021). The initiatives are funded by a finance bill and are carried out in collaboration between the Government of Greenland, the Greenlandic municipalities and the Center for Public Health in Greenland.

7.6. ICELAND

The first National Suicide Prevention Plan was implemented in 2004 and was based on European Alliance Against Depression (EAAD) methods. The plan involved nationwide public campaigns, workshops in all the General Healthcare regions with a focus on stakeholders. A new national plan for suicide prevention was approved by the government in 2018 (Directorate of Health, 2018). The plan is divided into 6 chapters addressing all stages of prevention through 54 recommendations, which focus on mental health promotion, emphasizing increased skills in suicide prevention, support for the bereaved, and quality improvement in psychiatric services. The plan is currently being updated and a new version will be published in 2024. The Center for Suicide Prevention was recently established within the Directorate of Health, assuming responsibility of existing national prevention programs, developing new ones, in addition to leading research in this field. Suicide prevention projects are funded through general support for mental health care. There is provision for one project manager in suicide prevention. Iceland is a participant in the Postvention project Supporting the population in Arctic. Iceland is co-operating on suicide prevention with JA ImpleMENTAL and the Nordic Suicide Prevention Research Network (NSRN).

7.7. NORWAY

The Norwegian Directorate of Health published the first national strategy in 1995. Since then, several editions of national strategies have been issued. In 2014, the national plan for suicide prevention consisted of 29 initiatives divided into 5 focus areas (Norwegian Directorate of Health, 2014). In 2020, a new plan was launched for the period 2020-2025, this time by eight ministries of the Norwegian Government introducing a zero vision for suicide in Norway (Departementene, 2020). The focus is on better and more systematic prevention, early and effective intervention for people at risk of suicide, support for people bereaved by suicide, and strengthen research, knowledge and competences regarding suicide prevention. For the first time national suicide awareness campaigns have been launched and carried out on a regional level. Many sectors of society, such as the health care systems, education systems, transportation sector, armed forces, child well-fare, work-life sector, integration services, mass media, social media and a range of non-governmental organizations have been involved in specific parts of the comprehensive strategy. In addition, several governmental organizations, such as the National Centre for Suicide Research and Prevention and the five regional centres, have been assigned tasks within the strategy.

7.8. SWEDEN

The Swedish Parliament introduced the first national program for suicide prevention in 2008, consisting of nine strategic priorities. In 2020, the Government commissioned the National Board of Health and Welfare and the Swedish Public Health Agency to revise the national strategy (Public Health Agency of Sweden, 2023). Twenty-four other national authorities were commissioned to take part in the work and contributed to a proposal that is broad and cross-sectoral in nature. The strategy combines the earlier national action plan for suicide prevention and the national strategy on mental health. One of the strategy's objectives is to strengthen suicide prevention efforts by prioritizing six areas: 1) Reduce social and economic risk factors associated with suicide; 2) Ensure safe health and social care for those at risk of suicide; 3) Coordinate response efforts during acute suicidal incidents; 4) Reduce access to methods and means of suicide; 5) Reduce stigmatisation and increase knowledge about suicide and suicidality; 6) Strengthen support for those bereaved after suicide. The new strategy for Mental health and Suicide prevention has been presented to the Swedish Government in September 2023.

Since 2020, Sweden has earmarked government stimulus grants for regions and municipalities to work with suicide prevention. Thus, there is at least one regional coordinator for suicide prevention in each of Sweden's 21 regions. Much of their work is centred on coordination and project management, education and training efforts and awareness campaigns. Several government authorities have commissions specifically addressing suicide prevention, such as The Swedish Transport Administration, The National Board of Health and Welfare and the National Medical Products Agency. Some NGOs working in the field receive public funds. The National Centre for Suicide Research and Prevention at KI receives funds on a yearly basis. The Public Health Agency has a permanent assignment to coordinate suicide prevention on a national level. As coordinator, the Agency is responsible for networks of regional coordinators, NGOs and national authorities. It also monitors development and provides knowledge about suicide and suicide prevention to both professional target groups and the general public.

7.9. AALAND

Aaland has a programme for suicide prevention, zero vision, introduced in 2019 (Ålands landskapsregering, 2019). The plan consists of 43 different actions for e.g., health- and social care, police enforcement, municipalities/schools, media and government to prevent suicides in Aaland. Many of the actions in the programme have been implemented or are in progress as part of the regular activities, while some actions remain to be implemented. The intention is to realize the entire programme and implement all the actions, as stated in the recent government programme for 2023-2027 (Ålands Landskapsregering, 2023).



8. PREVENTIVE EFFORTS AND WHO LIVE LIFE INTERVENTIVE PILLARS

Given that suicide is an outcome of multiple factors, a national plan for suicide prevention should be multi-level and multi-modal. Consequently, the effect of a national plan for suicide prevention depends on its different components and whether these are implemented successfully. The theoretical basis for national preventive efforts follows the U-S-I model introduced by the US Institute of Medicine (Mrazek & Haggerty, 1994), which divides preventive strategies into universal, selective and indicated interventions. *Universal prevention* addresses the entire population, for instance through awareness raising to reduce stigma and restricting access to suicide methods (Figure 7.1). *Selective prevention* consists of efforts to reduce suicide risks among vulnerable groups who are known to have an excess suicide rate, for instance individuals with mental disorders or homeless people who might be supported through telephone helplines and gatekeepers. Indicated prevention focuses on individuals at risk of suicide and might include psychosocial therapy or medicine (World Health Organization, 2014).

The body of evidence regarding effective interventions has grown substantially over recent decades, and there are numerous evidence-supported interventions which may be directed towards several of the identified high-risk groups (Mann, et al., 2021a). Yet, there is still need of effective interventions for other high-risk groups. Three international systematic reviews and one umbrella review were consulted for current evidence regarding promising strategies for suicide prevention (Mann, et al., 2021b, Mann, et al., 2005a, Zalsman, et al., 2016). The following section will briefly lay out their main recommendations.

Based on existing evidence, specific types of interventions have been identified as effective (Table 7.1). Many of these intervention are included in WHO's LIVE LIFE guide' four key interventions: 1) means restriction; 2) collaboration with relevant

media actors; 3) promotion of mental health among young people; and 4) early identification, assessment, treatment and follow-up of persons affected by suicide (including psychosocial therapy) (World Health Organization, 2021a). The existing evidence within these areas is reviewed in the next sections.

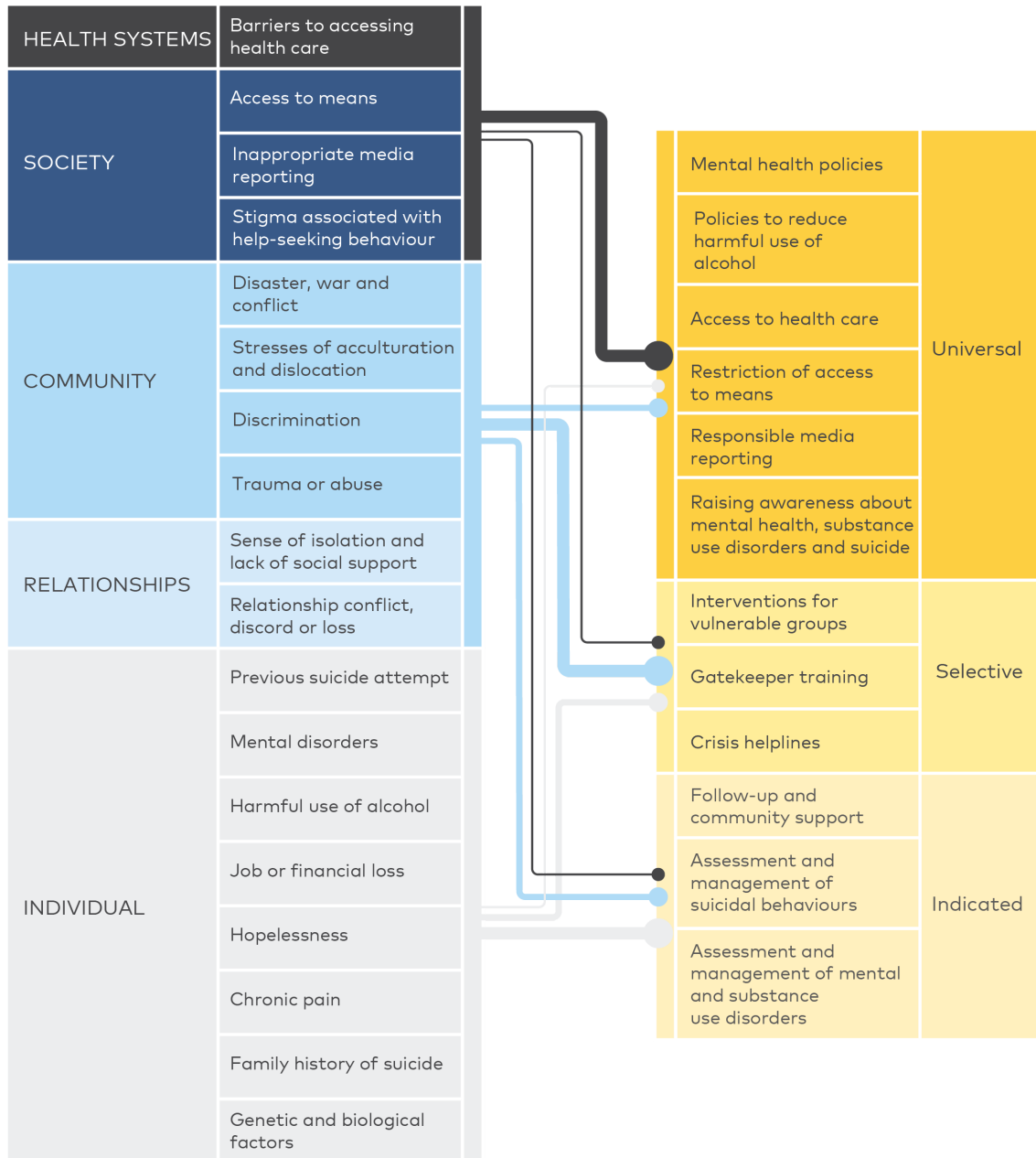


Figure 8.1 Risk factors and preventive efforts (WHO, 2014).

Evidence for the effectiveness of suicide preventive interventions is essential for guiding national investments. The quality and rigorousness with which interventions is evaluated, also referred to as level of evidence, is an important factor to consider when comparing supportive evidence of different interventions. Means restriction is one of the prevention strategies with most supportive evidence. However, evaluations of these efforts have mainly been based on study designs where pre- and post-measurement are compared without accounting for other potential influential factors. On the other hand, psychosocial therapy for people at risk of suicide has generally been tested in more rigorous study designs, such as randomised clinical trials, which have a high level of evidence. It is possible that more psychosocial therapy interventions would appear to be effective if they had been evaluated using the same study designs as those of means restrictions. It is, thus, important to take the study design into consideration when comparing the evidence, which supports different strategies.

Due to a scarcity of evidence from the Nordic countries, evidence from other countries is also included. Other evidence-supported interventions include training of primary care physicians, community-based interventions, and treatment with ketamine, which are briefly outlined below.

Efforts strengthening primary care physicians to detect and better treat depression in Sweden and screening for depression among older adults in rural settings in Japan have both been linked to reductions in the number of suicides (Oyama, et al., 2008, Rutz, et al., 1995). The German Depression Alliance is a community-based effort, which consists of campaigns, psychoeducation and better detection of depression, and has been linked to reductions in suicidal acts although later a follow-up study showed ambiguous findings regarding suicide deaths (Hegerl, et al., 2006, Köhler, et al., 2021). Gatekeeper training where stakeholders are trained to intervene if they identify members in their community who are at risk of suicide has successfully been implemented in the US Air Force and Norwegian military (Mann, et al., 2005a, Knox, et al., 2003).

Recent studies showed that treatment with ketamine has the potential to eliminate suicide thoughts almost instantly. This is a relatively new area but promising findings are emerging from several studies (Abbar, et al., 2022). Also treatment with lithium for individuals with bipolar disorders and with clozapine for individuals with psychosis have good evidence (Mann, et al., 2005a).

Table 8.1 Overview of effective interventions and level of evidence.

Universal prevention	Intervention and effect	Level of evidence*
Means restriction	Smaller pack sizes and withdrawal of medication, barriers on bridges, introduction of catalysators, stricter gun laws, and fences at railways (see Section 7.1).	**
School-based intervention	The Good Behavior Game has been linked to reduced risks of suicidal ideation (see Section 7.3).	**
School-based intervention	The Youth Aware of Mental Health Programme has been linked to reductions in self-harm episodes (see Section 7.3).	***
Primary care physicians	Supporting primary care physicians to detect and treat depression was linked to an almost 60% reduction in female suicides. After end of the educational effort, effects subsided.(Rutz, et al., 1995)	**
Public education campaign	A community-based effort consisting of campaigns, psychoeducation and better detection of depression resulted in 20% reduction in the number of suicidal acts. A multi-sites assessment did not reveal pre versus post differences in the number of suicide deaths.(Hegerl, et al., 2006, Köhler, et al., 2021)	**
Selective prevention		
Gatekeeper training	Multi-component intervention where training of US Air Force leaders to detect and intervene was combined with treatment options was linked to a 33% reduction in numbers of suicide.(Knox, et al., 2003) In the Norwegian military, information session, helplines, gatekeeper training, medical and welfare support were implemented and well received.(Mehlum & Schweps, 2001)	†
Detecting and treating depression in primary care	Community-based screening for depression and later follow-up was linked to fewer suicides among older adult males and females.(Oyama, et al., 2008)	***
Detecting and treating depression in primary care	Detection of depression in the waiting room of primary care physicians and assignment of case manager for older adults resulted in reduced levels of suicidal ideation.(Bruce, et al., 2004, Unutzer, et al., 2006)	***
Lithium treatment	Lithium treatment for individuals with bipolar disorder was associated with lower risks of suicide.(Kessing, et al., 2005, Fitzgerald, et al., 2022)	**

Ketamine treatment	Ketamine treatment for individuals with suicidal ideation was associated with eliminating suicidal ideation within 3 days.(Abbar, et al., 2022)	+++
Indicated prevention		
Psychosocial therapy	Psychosocial therapy for individuals after suicide attempt in the Danish Suicide Prevention Clinics was linked to fewer repeat suicide attempts, suicides, and deaths.(Erlangsen, et al., 2014)	**
Psychosocial therapy	Outreach and psychosocial therapy for individuals after suicide attempt in the Danish Suicide Prevention Clinics was linked to 8.7% fewer repeat suicide, suicides, and deaths. (Hvid, et al., 2011)	+++
Dialectic behavioural therapy (DBT)	Individuals with borderline personality disorders and self-harm behaviour offered DBT were found to have fewer self-harm events.(Mehlum, et al., 2019)	+++
Brief intervention	Individuals presenting to emergency department with suicide ideation or attempt were provided with risk assessment, discharge resources, and telephone calls, which was linked to a 5% reduction in repeat suicide attempts. (Miller, et al., 2017)	**
Safety planning	Provision of a safety plan to patients at risk of suicide was linked to a 43% reduction in suicidal behaviour.(Nuij, et al., 2021)	+++
Brief intervention after suicide attempt	Individuals seen in Emergency departments were provided with a 1hrs. psychoeducation and nine subsequent contacts by phone or in-person. The intervention was evaluated in five countries where no existing psychiatric services were offered for this target group.(Fleischmann, et al., 2008)	+++
Online therapy	Individuals with suicide thoughts were offered access to 6-module online-therapy program, which was found to reduce level of suicide thoughts.(Mühlmann, et al., 2021)	+++

* Level of evidence was rated according to the Oxford Centre for Evidence Based Medicine.(Centre for Evidence-based Medicine, 2001) Level of evidence was rated according to the Oxford Centre for Evidence Based Medicine (OCEBM). (Centre for Evidence-based Medicine, 2001) † Quasi experimental or ecological study designs (rated as 2B or 2C in OCEBM). ** Cohort studies (rated as 2A in OCEBM). *** Meta-analysis or randomized clinical trials (rated as 1B in OCEBM).

8.1. MEANS RESTRICTION

Means restrictions has been recommended as one of the most promising strategies for prevention of suicide (Mann, et al., 2005b). Examples of restricting access to suicide methods, include reducing pack sizes of pain killers and putting up fences or barriers at public sites of suicide ('hotspots'). The approach is based on the insight that people who carry out suicidal acts are often in a psychological crisis, acting impulsively on an unbearable, psychic pain while also likely to experience ambivalent feelings regarding the outcome of the event. By making suicide methods less accessible, one wins time. If the method of choice is not available, the person might instead seek help, the suicidal crisis might subside before another method is found, or the person might be identified by friends or bystanders and aided to support. The majority of individuals who survive a suicide attempt do not carry out a new attempt (Carroll, et al., 2014); thus supporting the notion that they were ambiguous about their suicide thoughts.

On a national level, making a specific suicide method unavailable may translate into hundreds of saved lives. Concerns that people might resort to other methods have been voiced but has not been supported by conclusive evidence. Also, if access to a highly lethal method is restricted then a substitution is still expected to result in lives saved (Gunnell, et al., 2017). This section will review the experiences with means restriction within the Nordic countries.

Poisoning is one of the most frequently used suicide methods, for instance paracetamol poisoning. A legislative change, which reduced pack sizes of non-opioid analgesics in pharmacies and non-pharmacy outlets, was linked to 43% fewer deaths and 61% fewer liver transplants in England and Wales (Hawton, et al., 2013). Inspired by these findings, the Danish Ministry of Health introduced a pack size restriction on weak analgesics in pharmacies in 2013. This restriction was followed by a reduction of 18% in hospital-presentations for non-opioid analgesic poisoning, which was further supported by reductions of alanine transaminase levels in blood tests, suggestive of fewer of liver failures (Table 7.2) (Morthorst, et al., 2020b). An earlier legislative measure had introduced an 18-year age limit on purchases of non-opioid analgesics in Denmark in 2011. This was associated with a 17% reduction in admissions for non-opioid analgesic poisonings among adolescents aged 10-17 years (Morthorst, et al., 2020b).

Earlier data bring evidence of other successful restrictions. In the late 1980s, barbiturates and dextropropoxyphene could no longer be prescribed. This was followed by a reduction in the number of suicides (Nordentoft, et al., 2007). On a similar note, the introduction of selective serotonin reuptake inhibitors (SSRIs), as a less toxic alternative to the tricyclic antidepressants, has been linked to a reduction in the number of suicides, although the onset of the two events, i.e. introduction of SSRIs and decline in the suicide rate, did not coincide (Isacsson, et al., 2009).

In Sweden, a restriction in the number of caffeine pills, which could be bought over-the-counter, was followed by an elimination of suicides due to overdose with caffeine pills in the subsequent two years (Thelander, et al., 2010). Although relatively few suicides occur by overdose of caffeine pills in the Nordic countries (Thelander, et al., 2010, Holmgren, et al., 2004), a detailed assessment of all medication used in suicide overdoses might identify other agents, which ought to be addressed through restrictive interventions.

In most of the Nordic countries, electronic databases and patient journals facilitates monitoring of the medication prescribed to a patient, thus, reducing risks of over-prescriptions. On-going revisions regarding availability and pack sizes of medication is currently being conducted in Iceland. In Denmark, a new project will collect detailed information from electronic patient journals regarding drugs used for suicide attempts with the purpose of reviewing and, potentially, identifying medication, which should be addressed by pack size restrictions.

Hanging remains the most frequently used method of suicide in the Nordic countries. While it challenging to prevent access to this method, individuals belonging to high-risk group who may be living in confined settings, such as psychiatric hospitals, nursing homes, and correctional institutions, where, for instance, ligature points may be removed and personal items may be contained (Gunnell, et al., 2005).

An international meta-analysis on installation of barriers on bridges or viaducts found a 28% reduction in the number of suicide death during subsequent years when compared to the years before the intervention. A slight increase in incidents at nearby bridges was factored into the analyses (Thelander, et al., 2010, Pirkis, et al., 2013). When compared to other suicide preventive strategies at public sites, means restriction seems to be most effective. A series of meta-analyses linked means restriction to a 91% reduction of suicides, while encouragement of help-seeking was linked to a 51% reduction and intervention by third party to a 47% reduction (Pirkis, et al., 2015). Several bridges in Sweden were identified, as public sites of suicide, resulting in recommendations of setting up barriers (Lindqvist, et al., 2004). A Norwegian study showed that six bridges accounted for 46% of all 'bridge suicides'. Barriers were installed on three of these, while one bridge was only partly covered by barriers. No suicides occurred on the two bridges, which were fully covered by barriers, whereas some incidents were observed at the bridge partly covered by barriers (Sæheim, et al., 2017).

Car exhaust, containing carbon monoxide, was a relatively frequent suicide method during the 1970s and 1980's. However, the introduction of catalytic converters in car exhaust systems implied that this method was gradually phased out during the 1990s (Nordentoft, et al., 2007).

A substantial share of suicides in Finland, Greenland, Iceland, and Norway took place by shooting. Findings suggest that availability of firearms might be linked to

suicide, for instance, among young males in Northern Finland (Lahti, et al., 2014). Stricter gun laws, in the form of making acquisition less easy and introducing mandatory safe storage, have been linked to a decrease in suicides by firearms among males in Norway during the 1990s (Puzo, et al., 2016). In Denmark, a decline in the number of suicides due to firearms has also been linked to stricter gun laws (Nordentoft & Erlangsen, 2019). Other countries, for instance, Iceland and Sweden have over the past decades introduced a stricter legislation regarding possession and storage of weapons. Also, in northern Sweden, a collaboration with the national hunting association has been initiated to promote awareness.

Although only around 5% of all suicides occur by railway, the personal and financial costs associated with this suicide method are considerable (Silla, 2022). Installation of barriers, for instance fences or wooden walls along the tracks, have been associated with fewer suicides at commuter stations in greater Stockholm, Sweden, while fewer suicides than expected were recorded at stations frequented by high-speed trains (Ceccato & Uittenbogaard, 2016). In an effort to counter this, fences were set up between railway tracks to prevent access to high-speed tracks. Substantial reductions were observed when compared to control stations in Stockholm, Sweden (Fredin-Knutzén, et al., 2022). However, an increase was seen at control stations, which were closely situated to the intervention stations. In Denmark, a pilot project of setting up signs, which encourage help-seeking, at railway stations has been evaluated positively in terms of reaching the target group. This was noticed by the national helpline for suicide prevention as they recorded calls from individuals who were evaluated to be at risk of suicide and had noticed the signs at the station (Erlangsen, et al., 2021).

Preventing access to suicide methods has been demonstrated to reduce the number of suicide deaths. Successful approaches include pack size restrictions on tablets, barriers on bridges, and stricter gun laws. For this reason, it is important to identify the specific drugs that are used for suicides as well as geographic locations of public sites.

Table 8.2 Restriction of access to means of suicide.

Method	Intervention	Outcome	Level of evidence
Analgesics	1) Introducing of smaller pack sizes. (Morthorst, et al., 2020b) 2) Restricting sales for adolescents below the age of 18.	1) A reduction of 18% in non-opioid analgesic poisonings. 2) 17% fewer admissions for non-opioid analgesic poisoning among 10–17-year-olds.	**
Barbiturates	Restricting use of drug. (Nordentoft, et al., 2007)	Gradual phasing out of suicides by barbiturates.	†
Bridges	Installation of barriers on bridges. (Sæheim, et al., 2017)	>78% reduction in suicide from bridges.	**
Bridges	Installation of barriers on bridges. (Fredin-Knutzén, et al., 2023)	An 83% reduction in suicides across four bridges.	†
Caffeine tablets	Restricting number of pills in over-the-counter sales. (Thelander, et al., 2010)	Elimination of suicides by overdose of caffeine pills.	†
Car exhaust	Introducing of catalysators on cars. (Nordentoft, et al., 2007)	Gradual phasing out of suicides by car exhaust.	†
Firearms	Introduction of stricter gun laws. (Puzo, et al., 2016)	4.3% reduction in suicides by firearms.	**
Railway	Installing mid-track fences to prevent access to high-speed tracks. (Fredin-Knutzén, et al., 2022)	62.5% reduction in suicide rate at the station of the mid-track fence.	**

Level of evidence was rated according to the Oxford Centre for Evidence Based Medicine (OCEBM).²⁰⁹ † Quasi experimental or ecological study designs (rated as 2B or 2C in OCEBM). ** Cohort studies (rated as 2A in OCEBM).

8.2. MEDIA REPORTING

Media outlets can play an active role in promoting help-seeking behaviour and prevention of suicide. Meta-analyses have shown that media narratives, i.e. stories presented in the media, which convey a sense of hope and recovery, have the potential to reduce suicidal ideation among vulnerable individuals (Niederkröthaler, et al., 2022). An example of this is the song by hip hop singer Logic. The song carried the title of the national telephone helpline for suicide prevention in the US, "1-800-273-8255" and it conveyed the importance of seeking help when experiencing suicide thoughts. During the months after the song's release, an increased number of calls were recorded at the national helpline and the song was linked to a reduction of 245 suicides in the US (Niederkröthaler, et al., 2021a). Similarly, a documentary, which encouraged males to seek help when experiencing thoughts of suicide, was associated with increased help-seeking intentions in a randomised trial conducted in Australia (King, et al., 2018).

As proposed by the social learning theory, individuals may adopt new behaviour by observing others (Bandura & Walters, 1977). This phenomenon has been coined as the *Papageno effect*. The name refers to a character in Mozart's opera, the Magic Flute. In the opera, Papageno experiences a suicidal crisis but is then reminded by three elves of his reasons for living (Niederkröthaler, et al., 2010). The scene symbolises that suicidal crises may be temporary and subside and, also, that others can successfully reach out to people at risk of suicide. Given that many people who experience suicide thoughts do not actively seek help, media outlets could fulfil an important role by educating the public about self-care for mental health and the need for seeking help when in crises. By presenting positive role-models, for instance, stories of coping with life stressors or suicidal thoughts and how to get help, media may inspire individuals in similar situations to seek help.

There is consistent evidence that when sensational reports in the media, for instance on celebrities' suicide, have been followed by copycat behaviours. The presentation of role models with suicidal behaviours, is suggested to lower the threshold for others to follow the same path. Systematic reviews and meta-analyses have demonstrated that both fictive and non-fictive reports of suicide can lead to copycat behaviors (Niederkröthaler, et al., 2021b, Niederkröthaler, et al., 2020).

Newspaper reports of celebrities who die by suicide have been followed by increases in the number of suicide deaths, in particular by the same method (Niederkröthaler, et al., 2020). For this reason, glorification and over-exposure of famous persons' suicide should be avoided, including in fictional stories, such as televised or streamed series. This effect has been referred to as the *Werther effect*, named after the main character in the novel "The sorrows of young Werther" by

Goethe, who dies by suicide in an unrequited love story. The book became popular in the late 18th century and was linked to copycat cases in contemporary Germany. Media reports on suicidal behaviour should not provide detailed description of suicide methods or explicit images. Furthermore, it is strongly recommended to list information on where people with suicide thoughts can get help, for instance listed in an accompanying box. WHO has developed a set of guidelines for media professionals (see box 7.2.1) and filmmakers (World Health Organization, 2023, World Health Organization, 2019)

It is important to practice caution when reporting on topics related to suicidal behaviour in the media. Famous persons may serve as role models and glorification of a celebrity's suicide may seem encouraging to people in crises.

Celebrities generate a lot of interest, and the suicide death of Avicii, a famous Swedish DJ, was followed by intense activities in social media; network analyses revealed a strong response on social media, i.e. X (former Twitter). Findings revealed that tweets containing information related to the method of suicide were distributed to a larger group of followers than tweets, which did not mention the method (Niederkrötenhaller, et al., 2019). Dissemination on suicide method in social media is worrisome because it is challenging to control who might be affected. In Denmark, a closed forum on social media was found to be instrumental in several suicides and self-harm events among young females (Sørensen, 2020). In general, adherence to the WHO media guidelines is not enforced on social media.

Box 8.2.1. *WHO Media guidelines*

- Do provide accurate information about where to seek help for suicidal thoughts and suicidal crises.
- Do educate the public about the facts of suicide and suicide prevention based on accurate information.
- Do report stories of how to cope with life stressors and/or suicidal thoughts and the importance of help-seeking.
- Do apply particular caution when reporting celebrity suicides.
- Do apply caution when interviewing bereaved family or friends or persons with lived experience.
- Do recognize that media professionals may themselves be affected by covering stories about suicide.
- Don't position suicide-related content as the top story and don't unduly repeat such stories.
- Don't describe the method used.
- Don't name or provide details about the site/location
- Don't use language/content which sensationalizes, romanticizes or normalizes suicide, or that presents it as a viable solution to problems.
- Don't oversimplify the reason for a suicide or reduce it to a single factor.
- Don't use sensational language in headlines.
- Don't use photographs, video footage, audio recordings, digital or social media links.
- Don't report the details of a suicide note.

Source: World Health Organization (2023).

Collaborations with media professionals are recommended. Stakeholders from the Nordic countries report of good collaborations with media professionals and that print media in general remember to provide information on where to find help when writing about suicidal behaviour. Several countries have translated the WHO media guidelines – or provide a brief summary of its main points - in the national language. In Norway and Sweden, organisations have succeeded with updating the national press ethical guidelines to ensure that they reflect the WHO recommendations. There is also systematic and on-going monitoring of reports on suicidal behaviour in the general media to assess whether they adhere to existing guidelines. Based on such effort, Swedish researchers have noticed an improvement in media reporting practices over time.

Awards for media professionals who adhere to the WHO media guidelines have been positively evaluated (Dare, et al., 2011). This practice already exists in Denmark, Norway, and Sweden, from 2024 it will be introduced in Iceland.

Table 8.3 Experiences with media and suicide prevention.

	Den- mark	Faroe Islands	Fin- land	Green- land	Ice- land	Nor- way	Swe- den	Aaland Islands
Media								
Does the print media in general adhere to WHO's media guidelines?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
How is the general collaboration with media professionals regarding communication on suicidal behaviour?	Good	Good	Good	Good	Good	Good	Good	Good
Are there any controlling efforts to regulate communication on suicidal behaviour in social media?	No	No	No	No	No	No	No	No
Do you have an award for good media reporting on suicidal behaviour?	Yes	No	No	No	Yes (from 2024)	Yes	Yes	No

Based on statements from researchers in the field of suicide prevention.

8.3. PROMOTION OF MENTAL WELLBEING IN YOUTH

Concerns regarding young people's mental well-being have emerged from recent reports in several of the Nordic countries (Stoltenberg, 2022).

With the aim of promoting mental health in youth, several promising school-based interventions have been developed, some of which are described in this section. The majority of these efforts address mental well-being in general among children and adolescents.

One such school-based intervention is the Good Behaviour Game. It consists of a team-based competition, which allows teachers to set standards for good behaviour and promote socialisation of children with maladaptive behaviours (Wilcox, et al., 2008). The program is aimed at children aged 5-7 years who are assigned to equally distributed teams in terms of sex, social isolation, and disruptive behaviour. Based on classroom rules, teams can win points during assigned periods. The implicit goal is that children discover it is in their own interest to present good behaviour and the maladaptive children's behaviour is regulated by classmates. The intervention has been linked to reduced risks of suicidal ideation, and other adverse mental health outcomes, such as substance misuse (Wilcox, et al., 2008). The Good Behaviour Game is currently being tested in a Swedish cluster-randomized trial where teacher's ratings conduct problems in class will form some of the outcomes (Djamnezhad, et al., 2023).

In 2020, WHO and United Nations Children's Fund (UNICEF) released the toolkit, Helping Adolescents Thrive (HAT), which aims at promoting adolescent mental well-being and preventing self-harm (World Health Organization, 2020b). The kit is directed towards adolescents aged 10-14 years, their caregivers, schools, community, and governmental agencies. The toolkit is based on evidence-informed strategies, which actively promotes access to mental health care for young persons, resources for schools and communities, outline of interventions for caregivers, and examples of psychosocial interventions for youth (World Health Organization, 2020b). This tool is seemingly not being used in the Nordic countries.

The school-based intervention, Youth Aware of Mental Health Programme (YAM), is a manualised program using role-playing and a booklet to increase awareness about mental health and introduce skills for coping with life stressors. One of its strategies involves encouraging young adolescents to look out for each other. The program, which is aimed at 15-year olds has been linked to reductions in self-harm episodes in a randomised clinical trial (Wasserman, et al., 2015). Interestingly, peer support was identified as the effective component rather than teacher intervention. The YAM intervention has been tested in Norway with the recommendation of its implementation (Pedersen, 2022). YAM is currently being introduced in the Swedish school system and will soon be tested for its feasibility in Denmark.

Supported by a recent act passed by the Icelandic Parliament, work is being done to introduce mental health as a separate subject in primary schools. Also, dialectical behavior therapy, as a skills training for emotional problem-solving (DBT STEPS-A) (Flynn, et al., 2018, Gasol, et al., 2022), is currently being tested as a pilot project in Iceland.

8.4. EARLY INTERVENTION

Support for persons at risk of suicide is a crucial element in suicide prevention. Some people who experience suicidal ideation actively seek help, either in general or mental healthcare settings or with community-based organizations. Others might choose to disclose it to people close to them or call a telephone helpline.

International reviews revealed that people after self-harm have elevated risks of repeating the behaviour also with fatal consequences, particularly within the first year after the episode (Carroll, et al., 2014, Bergen, et al., 2012). This emphasises the importance of providing support for people who have had a suicide attempt.

This section will review some of the different options for reaching providing support for those who have had a suicide attempt, for instance through brief interventions and psychosocial therapy. On a wider scale, options for reaching out to those at risk of suicide, for instance through follow-up after discharge from psychiatric hospital, telephone helplines, and eHealth tool, are also addressed. Evidence related to interventions provided in a Nordic setting are prioritised.

8.4.1. BRIEF INTERVENTION

Brief interventions, such as a safety plan, which was developed to be administered during ED-presentations for suicide attempt, have been recommended (Stanley & Brown, 2012). Safety plans are often used in connection with psychiatric treatment, for instance in out-patient settings. However, it may also be considered in ED-department of general hospitals, given that international meta-analyses document that safety plans are linked to reductions in suicidal behaviour (Nuij, et al., 2021).

Findings suggest that less than half of those who presented with suicide attempt at Danish emergency departments went on to receive psychiatric treatment (Dyvesether, et al., 2022). Clinical guidelines specify the need for a psychiatric assessment of patients who attend the ED-department and conducted by a psychiatrist or staff from the psychiatric clinic. This may, however, not always take place, especially during evenings and weekends (Kapur, et al., 2008).

The clinical focus on risk screening tools has been criticized by mental healthcare professionals; some perceived that administrative tasks prevent them from using the limited time in a busy clinical setting to relate to the patient (Espeland, et al., 2021). Psychiatric inpatients in Norway mentioned individualized treatment and the feeling of a companionship between the patient and the clinician as factors, which contribute to recovery (Hagen, et al., 2018).

A quality of care model consisting of monitoring and procedures for patients with suicide attempt has been implemented in Norwegian ED-departments and was evaluated positively by key informants (Mehlum, et al., 2010). This was further expanded to include municipalities where designated staff would coordinate aftercare, in collaboration with local hospitals, when being informed about individuals who were discharged from hospital after a suicide attempt (Mork, et al., 2010).

On a general level, municipalities with extended outpatient services have in Finland been linked to reductions in the suicide rate (Pirkola, et al., 2009).

8.4.2. PSYCHOSOCIAL THERAPY

Psychosocial therapies have been used to provide crises intervention and introduce problem-solving strategies to people after self-harm. This type of intervention has been evaluated as promising for youth and adults by Cochrane reviews (Witt, et al., 2021a, Witt, et al., 2021b).

A psychosocial support model, where young patients after a hospital presentation for suicide attempt received therapeutic support from a psychiatric nurse and a social worker, was developed in 1984 in Bærum, Norway (Dieserud, et al., 2000, Dieserud, et al., 2010). Comparing those who received the standard model with those who received an additional community-based support component, no significant differences were found with respect to repeat suicide attempt (Johannessen, et al., 2011). Engaging social workers to support individuals at risk of suicide was also a part of the treatment model for the Danish Suicide Prevention Clinics. The target group for these clinics is individuals who do not attend an existing out-patient team. Patients are offered 4-10 sessions of psychosocial therapy. When compared to individuals who did not attend the same care after a suicide attempt, the treatment in the Danish Suicide Prevention Clinics was linked to reductions in repeat suicide attempt, suicide and death by other causes (Erlangsen, et al., 2014, Birkbak, et al., 2016). In some regions, an extended version of the chain of care, which includes municipal social worker as a part is provided for children and adolescents (Morthorst, et al., 2021b).

Assertive out-reach, which was aimed to provide problem-solving and motivational support for individuals after a suicide attempt through case management, was tested in a randomized trial in Denmark. When compared to those allocated to standard care, no statistically significant difference was found for those allocated to the intervention group with respect to repeat suicide attempt (Morthorst, et al., 2012).

Psychosocial therapy models have been developed to target individuals with specific mental disorders, such as dialectic behavioural therapy for individuals with borderline personality disorders. In a Norwegian trial, adolescents with symptoms of borderline personality disorder and repetitive self-harm behaviour were

randomized to dialectic behavioural therapy or standard treatment. After 19 weeks of follow-up, fewer self-reported self-harm events and suicidal ideation were reported among those allocated to the DBT-treatment (Mehlum, et al., 2014). Significantly fewer self-harm events were also confirmed after 3 years of follow-up (Mehlum, et al., 2019). In a Danish trial, no significant difference with respect to self-reported self-harm was found for individuals with borderline personality disorder randomized to DBT versus collaborative assessment and management of suicidality (CAMS) (Andreasson, et al., 2016).

Although described as a short intervention, the Attempted Suicide Short Intervention Program (ASSIP) consists of approximately 3 sessions of psychotherapeutic and letters every 3 months over the subsequent one year (Arvilommi, et al., 2022). In Finland, ASSIP was compared to more general crisis counseling in a randomized clinical trial. No difference in terms of later suicide attempts was found between the two types of support when examined for a group of individuals after suicide attempt (Arvilommi, et al., 2022). Detailed analyses revealed that younger age and history of previous suicide attempt, mental disorders, borderline personality disorders were associated with repetition of suicide attempts. The ASSIP-program is available in relatively few cities in Finland, while DBT is available for people with borderline personality disorders in major cities.

8.4.3. FOLLOW-UP AFTER DISCHARGE

The high suicide rate has motivated interventions to support patients at the time of discharge from psychiatric admission as well as to facilitate the transition to out-patient treatment. The Danish SAFE-trial offered face-to-face meetings between inpatients and out-patient clinician before discharge and, later, at home plus involvement of next of kin. However, no observable difference was found with respect to suicide attempt and death by suicide at 6 months follow-up (Madsen, et al., 2023).

Interestingly, findings from Finland suggest that a structural change, leading to shorter hospital stays but more individuals receiving treatment, was not linked to an increase in the suicide rate among recently discharged patients (Pirkola, et al., 2007). On a whole, documentation on effective interventions for individuals recently discharged from psychiatric hospital is lacking and more research is needed.

8.4.4. TELEPHONE HELPLINES

Telephone helplines for suicide prevention exist in most Nordic countries. Findings from the Danish helpline show that as many as 20% of callers have had a previous suicide attempt and that 47% of callers had suicide thoughts at the time of calling (Jacobsen, et al., 2022). Thus, suggesting that helplines do reach their target group of individuals with suicide thoughts.

There is some support that callers have evaluated the provided support as beneficial. The evidence is, however, largely based on interviews with users or counsellors, i.e. an actual reduction in suicidal acts has not been demonstrated (Mishara, et al., 2007, Mishara, et al., 2022). In qualitative interviews, callers to a Norwegian diaconal helpline for suicide prevention mentioned the immediate empathy and emotion support, a perceived connectedness, as well as existential support (Vattø, et al., 2020). Helplines are often operated by volunteers and counsellors may find it emotionally stressful to respond to call and pre- and post-shift debriefing has been recommended (Vattøe, et al., 2020).

8.4.5. E-HEALTH TOOLS FOR SUICIDE PREVENTION

Over recent years, an increasing number of *eHealth tools*, i.e. online-based tools for improving health outcomes, have been developed, including apps with safety plans and online therapy for people at risk of suicide.

Internet-based therapy using cognitive behavioural therapeutic strategies and offered to individuals with suicide thoughts, has been shown to reduce levels of suicide thoughts in randomised clinical trials in both the Netherlands and Denmark (Mühlmann, et al., 2021, van Spijker, et al., 2014). These types of interventions have the potential for reaching individuals who may be at risk of suicide but are reluctant to seek help in the psychiatric health care system.

App-based versions of the safety plan are available in Denmark, Norway and Sweden (Larsen, et al., 2015, Suicide Zero, 2023). The elements of the app have been developed and validated in collaboration with users, next of kin, and clinicians (Buus, et al., 2018, Buus, et al., 2019).



9. SUMMARY

Every suicide death is one too many and, in the Nordic countries, approximately 3,574 died by suicide in 2022.

The highest suicide rates were observed among Greenlandic males and females. Although a goal of a 33% reduction in suicide rates was introduced by the United Nations in 2015 and later ratified by the Nordic Council of Ministers, the suicide rates in the most populated Nordic countries have only shown modest improvements over recent years.

In terms of risk and protective factors, good coherence exists in the evidence from the Nordic countries. Being a multi-factorial outcome, it is not feasible to arrive at detailed explanations for the differences observed in the suicide rates of the individual Nordic countries. From the perspective that 'any suicide is one too many', the main goal remains to prevent all suicides.

Belonging to an indigenous group, male sex, being middle-aged or older adult, not being married, having lower education, being unemployed was linked to elevated risks of suicide. On the other hand, being married and having children, in particular young children, were identified as being protective of suicide.

Individuals with mental disorders have some of the highest rates of suicide. If effective interventions lead to removal of the excess risk, this could reduce the overall suicide rate with up to 40%. Suicide risks are high at times of discharge from psychiatric hospital. Risks are particularly high at the time of a first diagnosis. Also, individuals with previous suicide attempts constitute a risk group with respect to suicide.

Many physical disorders have been linked to an excess risk of suicide. Given that a substantial number of members of the general population have chronic disorders, this group might be accountable for a large number of suicide deaths, despite having slightly lower risks than individuals with mental disorders. People with chronic disorders have higher risks of developing depression, and it constitutes a major concern that these not always identified, and thus, also not treated.

Stressful life-events may increase risks of suicide, especially among vulnerable individuals. Findings from Nordic register data studies have identified a range of stressful life-events, ranging from personal losses, such as bereavement, divorce and job loss, to natural disasters. Marginalised groups may be particularly vulnerable, to suicide, for instance LGBT+, young asylum-seekers, homeless individuals, and victims of criminal acts.

Many of those who die by suicide were seen in primary care in the last months. Although this could be an important target group for interventions, findings suggest that not all may receive optimal care.

The registration of suicide deaths has been evaluated as reliable in the Nordic countries. Although some countries have developed algorithms for estimating the true number of suicide attempts in hospital registers, there does not seem to be a continuous monitoring system in place with respect to suicide attempts.

Physician-assisted suicide remains not legal in all Nordic countries. There seems to be a need for better dissemination regarding palliative care options and sufficient availability.

Several evidence-supported interventions, which address different target groups, exist. However, effective interventions are still missing for some target groups. While means restriction is one of the prevention strategies with most supportive evidence, the level of evidence has mainly been based on study designs comparing pre- and post-measurement. Other promising interventions include psychosocial therapy for people at risk of suicide. This intervention strategy has generally been tested by more rigorous study designs, such as randomised clinical trials.

Preventing access to suicide methods has been demonstrated to reduce the number of suicide deaths. Successful approaches include pack size restrictions on pills, barriers on bridges, and stricter gun laws. It is important to identify the specific drugs that are used for suicides as well as the public sites where suicides occur. A more detailed monitoring of suicide methods seems indicated. Real-time monitoring of risk groups and methods would be recommended.

High-quality evidence documents the harmful effects by fictional or non-fictional stories where suicide incidents were glorified. Examples from the Nordic countries illustrate the potential harmful effects that social media activities may have on vulnerable groups. The WHO have developed concrete guidelines for media professionals and filmmakers. A growing body of evidence suggest that presentation of positive role models who promote help-seeking may reduce suicidal behaviour.

School-based interventions on emotion regulation directed towards young children as well as psycho-educative activities for teenagers have been evaluated as being suicide preventive. Several Nordic countries are implementing or testing this type of interventions.

Individuals at risk of suicide may be seen in emergency departments and other clinical settings - or they may contact telephone helplines. Good support exists for brief interventions after ED-presentations and psychosocial therapy, which have been tested in several Nordic countries. Still, effective interventions for individuals recently discharged from psychiatric admission is lacking. Helpline support remains to be assessed in high-quality studies- Online tools, such as internet-based therapy, have been shown to reduce levels of suicide thoughts.

In sum, additional reductions of suicides are needed. Several effective interventions exist, yet evidence is lacking for certain high-risk groups, such as individuals discharged from psychiatric hospital and follow-up after presentation for suicide attempt. Nordic register data provided a unique recourse for real-time monitoring suicide and suicide attempt.

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APPENDIX 1: Basic country data

Country	Language	Population (in mill.)	Life expectancy at birth (years)	World Bank Region	GNI per capita (in thousand \$)
Denmark	Danish	5.90	81.4	High income	68.0
Faroe Islands	Faroe, Danish	0.05	83.5	High income	69.0
Finland	Finnish, Swedish	5.56	81.9	High income	53.5
Greenland	Greenlandic, Danish	0.06	71.1	High income	57.1
Iceland	Icelandic	0.38	83.1	High income	68.6
Norway	Norwegian	5.46	83.2	High income	90.7
Sweden	Swedish	10.49	83.2	High income	61.1
Aaland Islands	Swedish	0.03	84.6	High income	40.1

Abbreviations: Gross National Income (GNI)

APPENDIX 2: Reported suicide rates for the Nordic countries, 2000–2019

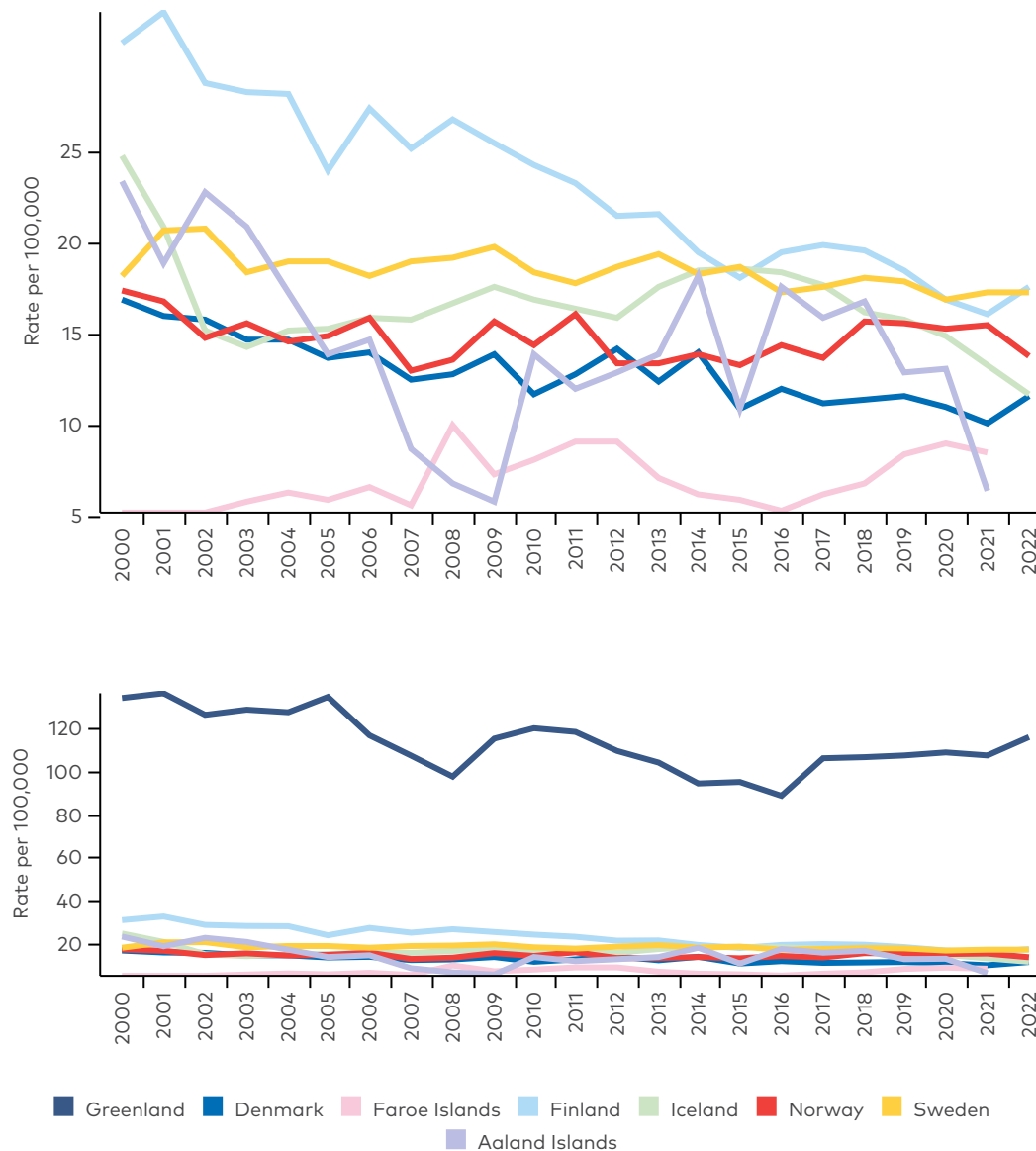


Figure A1 Suicide rates for males by calendar year.

Data for Faroe Island for the years 2000–2006 were based on 5-year periods (i.e. 2000–2004 and 2005–2009). Suicide rates for Greenland were presented on a different scale than the other plots. For this reason, the Greenlandic suicide rate was omitted from the other plots. Further, moving averages were used to smooth the suicide rates of Faroe Islands (5-year moving averages), Greenland (3-year moving averages), Iceland (3-year moving averages), and Aaland Islands (5-year moving averages).

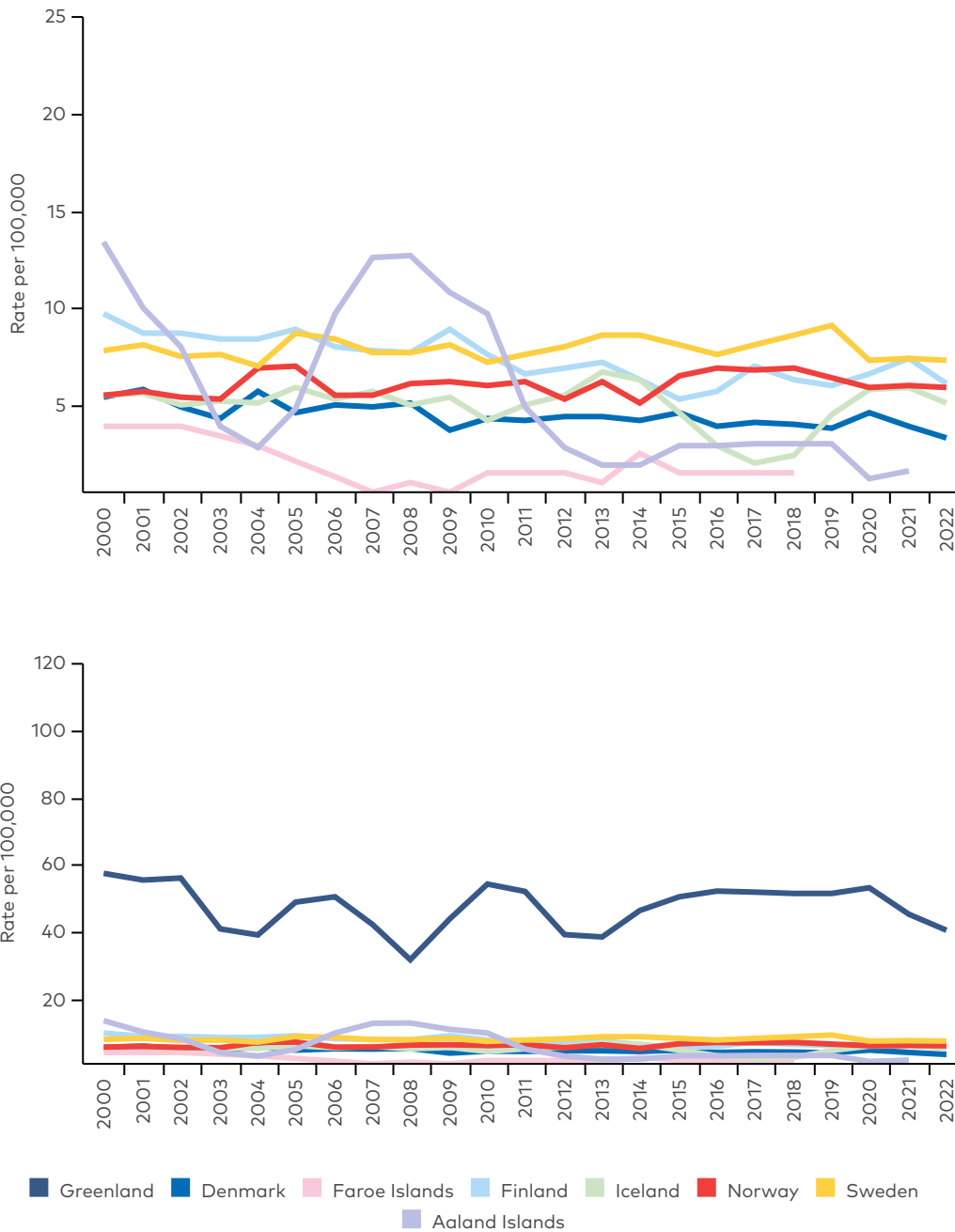


Figure A2 Suicide rates for females by calendar year.

Data for Faroe Island for the years 2000–2006 were based on 5-year periods (i.e. 2000–2004 and 2005–2009). Suicide rates for Greenland were presented on a different scale than the other plots. For this reason, the Greenlandic suicide rate was omitted from the other plots. Further, moving averages were used to smooth the suicide rates of Faroe Islands (5-year moving averages), Greenland (3-year moving averages), Iceland (3-year moving averages), and Aaland Islands (5-year moving averages).

Table A1. Changes in the age-standardized rates between 2015 and 2022.*

	All	Males	Females
Denmark			
2015	7.7	10.9	4.6
2022	7.5	11.6	3.8
Change in %	2.3	-6.2	18.1
Finland			
2015	11.7	18.1	5.3
2022	11.9	18.5	6.0
Change in %	-1.9	-2.3	-14.8
Greenland			
2015	73.7	95.0	50.4
2022	79.6	107.3	51.4
Change in %	-8.1	-13.0	-1.9
Iceland			
2015	11.7	18.6	4.6
2022	8.5	11.7	5.1
Change in %	27.0	37.2	-10.8
Norway			
2015	9.9	13.3	6.5
2022	9.9	13.8	5.9
Change in %	0.3	-3.4	8.8

Sweden			
2015	13.4	18.7	8.1
2022	12.9	17.3	7.3
Change in %	3.9	7.7	10.3

*Due to few incidents of suicide deaths on a yearly basis, trends for Faroe Islands and Aaland Islands were not assessed.

APPENDIX 3: RESOURCES FOR SUICIDE PREVENTION IN DENMARK

General support

- SELVMORDSFÖREBYGGELSE: One portal for information related to suicide prevention for individuals at risk of suicide, being next of kin, media professionals and clinicians. The website links up to all existing resources, such as the Suicide Preventive Clinic in each of the regions: <https://selvmordsforebyggelse.dk/>
- KULKÆLDEREN: A peer-to-peer website for people with suicide thoughts. The website is being developed by the Papageno Group, a user panel with lived experiences of suicide thoughts (<https://kulkaelderens.dk/>)
- I-CARE: A peer-to-peer website for parents of children with suicide attempt. The website has been developed in collaboration with parents with lived experiences. On the website are videos of parents, an avatar, Q&A, and information (<https://icareprojektet.dk/>).

Telephone helplines

- LIVSLINIEN (<https://www.livslinien.dk/>) is an NGO and the national helpline for suicide prevention. They offer counselling by phone, chat, and e-mail. Open from 11AM to 5 AM each day.
- BØRNTELEFONEN (<https://bornetelefonen.dk/>) is a phone helpline with a focus on any problems that children and youth may experience. Open 24 hrs each day.
- STARTLINJEN (<https://startlinjen.dk/>) provides counselling for personal problems, loneliness, and life crises. Open from 4PM to 11PM each day.

For professionals

- E-LÆRING: An e-learning program for clinicians and health care staff in somatic setting. Can be accessed through the joint portal for suicide prevention (<https://selvmordsforebyggelse.dk/fagpersoner/det-nationale-e-laeringsprogram/>)
- TVÆRFAGLIGT SAMARBEJDE: Information, inspiration and concepts for cross-sectorial collaborations for suicide prevention. Material has been developed on national workshops. (<https://selvmordsforebyggelse.dk/fagpersoner/inspiration-til-tvaergaende-samarbejde/>)
- LIVSMOD: Regional network of professionals and leaders in municipalities, hospital and other organizations in Northern Zealand. Focused on mental wellbeing and suicide prevention. Members of the network have access to workshops and seminars (<https://livsmod.net/>)

Support for bereaved by suicide and affected by suicide attempt

- NEFOS: national NGO, which provides support and volunteer-based counselling for people bereaved by suicide or affected by suicidal behavior. Offers individual conversations and group-sessions with volunteer counsellors. (<https://nefos.dk/>)
- LANDSFORENINGEN FOR EFTERLADE: national NGO, which offers support and help to people bereaved or affected by suicidal behavior. Organizes café meeting and walk&talk events. (<https://efterladte.dk/>)

National alliances for suicide prevention

- NATIONALT PARTNERSKAB FOR SELVMORDSFOREBYGGELSE: A national partnership for suicide prevention, which is managed by the Danish Health Authority and includes central stakeholders from public institutions, clinicians, researchers (https://www.sst.dk/da/udgivelser/2017/~/_media/DAA1DA5329484771970FFC30F946CD6C.ashx)
- FUFs: Association for Education and Prevention of Suicides, which disseminates awards for suicide prevention efforts and media awards (<https://fufs.dk>)

Research institutions for suicide prevention

- Danish Research Institute for Suicide Prevention (DRISP) (<https://drisp.dk/>)
- Center for Selvmordsforskning (<https://selvmordsforskning.dk/>)

Statistics on suicide

- FORSAM: The FORSAM-database is a new online monitoring device for suicide, suicide attempt, bereaved by suicide and affected by suicide attempt. Absolute numbers and rates per 100,000 are presented for 20+ high risk groups on national, regional, hospital cluster, and municipal level. (<https://forsam.dk/>)
- STATISTIKBANKEN: Statistics on suicide and suicide attempt on national and regional level are available from this database. (<https://statistik.selvmordsforskning.dk/>)
- CAUSE OF DEATH: online database on causes of death by calendar year, region, municipality, age group, sex by the Danish Health Data Authority, (<https://www.esundhed.dk/Emner/Hvad-doer-vi-af/Doedsaarsager>).
- STATISTICS DENMARK: online database on causes of death by calendar year, sex, and age (<https://www.statistikbanken.dk/DODA1>).

APPENDIX 4: RESOURCES FOR SUICIDE PREVENTION IN FAROE ISLANDS

General support

- Almannaverkið (the Department of Social Services)/ www.av.fo / Phone: 00298 360000
- After-hours Medical Assistance phone 1870
- Emergency Phone 112

Telephone helplines

- Berin (for those that have lost someone)/ www.berin.fo / Phone: 00298 222993
- Sinnisbati (society for prevention of psychiatric illness)/ www.sinnisbati.fo /Phone: 00298 597913
- Barnabati (child/Youth help line)/ www.barnabati.fo / Phone: 00298-116111.

The phone-lines are open in limited hours

For professionals

- Psychiatric department/ www.sv.ls.fo
- University of Faroe Islands / www.setur.fo

Support for bereaved by suicide and affected by suicide attempt

- Berin (for those that have lost someone)/ www.berin.fo
- Sinnisbati (Society for Prevention of Psychiatric Illness)/ www.sinnisbati.fo
- Psychiatric department/ www.sv.ls.fo
- Familjudepilin (child and youth psychiatry)/ www.sv.ls.fo

Research institutions for suicide prevention

- University of Faroe Islands/ www.setur.fo

Statistics on suicide

- STATBANK, Hagstova, Faroe Islands
<https://statbank.hagstova.fo/pxweb/en/H2/>
- Yearly report from the Medical Officer/ www.landslaeknin.stps.dk
- Yearly report from Statistics Faroe Islands (Hagstovan)/ www.hagstova.fo

APPENDIX 5: RESOURCES FOR SUICIDE PREVENTION IN FINLAND

Suicide prevention in general

- The national plan for suicide prevention 2020–2023, published by the Finnish Government (<http://urn.fi/URN:ISBN:978-952-00-5401-4>)

General support

- The Mental Hub (in Finnish “Mielenterveystalo”; <https://www.mielenterveystalo.fi/fi>) is a freely available and nationally widely used internet portal maintained by the Helsinki University Hospital (HUS). For general uses without referral, it provides information on mental health, psychoeducation, guidance on availability of services, questionnaires and self-help-interventions based on cognitive-behavioural framework. The website endorses safety planning and creating a plan with a professional but includes also a “virtual helper Milli” with whom a personalized safety plan can be created.

Telephone helplines

- Mieli Mental Health Finland (<https://mieli.fi/>) is a third sector organization providing telephone crisis helpline; crisis counselling, peer support groups and various internet-based services.
- It also provides a chat service (Sekasin-chat) for the young 12–29 old users (<https://sekasin.fi/>) with professionals or trained volunteers, and a peer support server moderated by professionals (Sekasin Gaming <https://discord.com/invite/sekasin>), and a chat service for adults (Solmussa-chat; <https://tukinet.net/teemat/solmussa-chat-783075200/>).

For professionals

- National Current Care Guidelines for Finnish health care professionals are provided by Medical Society Duodecim in collaboration with medical specialty organizations such as the Finnish Psychiatric Association. The guidelines include guidance for suicide prevention and evaluation and treatment of suicide attempters (in Swedish <https://www.kaypahoito.fi/sv/gvr00020>). Evaluation of suicide risk is briefly included also into the guidelines for depression (<https://www.kaypahoito.fi/sv/gvr00067#s13>), bipolar disorder (<https://www.kaypahoito.fi/sv/gvr00065#s14>), borderline personality disorder (<https://www.kaypahoito.fi/sv/gvr00035>) and noted in the guidelines for schizophrenia (<https://www.kaypahoito.fi/sv/gvr00062>).
- The Mental Hub (Mielenterveystalo, <https://www.mielenterveystalo.fi>) contains a closed section (identification needed) for professionals, for whom educational videos and courses, training materials plus scales and questionnaires available. These include a course on evaluation of suicide risk. The Mental Hub also provides internet-based therapies guided by professionals; a referral is needed.

Support for bereaved by suicide and affected by suicide attempt

- Mieli Mental Health Finland organizes under its auspices peer support groups for individuals, couples or families bereaved by suicide. The groups are led by trained professionals.
- The peer support organization Surunauha ry (<https://surunauha.net/>) is for those bereaved by suicide. It has about 900 members. It collaborates with the Mieli Mental Health and other mental health organizations.

National alliances for suicide prevention

- There are no national alliances specifically for suicide prevention.
- The Finnish Central Association for Mental Health (<https://www.mtkl.fi/>) has a wide network of local associations (> 140).
- FinFami's (Finnish Central Association of Families of People with mental illness; <https://finfami.fi/>) 18 member associations' professional support and counselling services are available around Finland.

Research institutions for suicide prevention

- The Finnish Institute for Health and Welfare (THL) is the national research institute for health research, including research on mortality and suicides (THL <https://thl.fi/en/web/thlfi-en/research-and-development/research-and-projects/programme-for-suicide-prevention>)
- Multiple researchers at the Finnish universities have a research focus on suicide prevention.

Statistics on suicide

- Official statistics of suicides in Finland are based on the law on determination of causes of death; sudden and unexpected deaths are by law always examined by police, and the cause of death is determined by forensic medical investigation. The Finnish Institute for Health and Welfare (THL; <https://thl.fi/en/web/thlfi-en>) is responsible for the inspection and supervision of death certificates.
- The statistics are compiled by the Statistics Finland (Tilastokeskus, https://www.stat.fi/index_en.html).
- The Finnish Institute for Health and Welfare maintains statistical service Sotkanet (<https://sotkanet.fi/sotkanet/en/index?>) from which statistical information on suicides by age, sex and region is available.

APPENDIX 6: RESOURCES FOR SUICIDE PREVENTION IN GREENLAND

Suicide prevention in general

- QAMANI the national plan for suicide prevention 2023–2028, which is Greenland's third a national suicide prevention strategy, was launched in 2023.
(https://naalakkersuisut.gl/-/media/publikationer/boern_og_unge/2023/selv_mordsstrategi_150923.zip)
- Link to news about the plan
(https://naalakkersuisut.gl/Nyheder/2023/09/1009_qamani?sc_lang=da)

General support

- In case of a suicide attempt involving hospitalization, survivors are offered up to ten consultations with a psychologist from the psychiatric ward in Nuuk.
- Students can get help from psychologists employed at the national 'Studenterrådgivningen'.

Telephone helplines

- Tusaannga - a national telephone helpline. The line is open 24/7 and is free of charge. Callers are treated as anonymous.
https://socialstyrelsen.gl/4_tilbud_til_borgerne/tusaannga?sc_lang=da
- The Children's Rights Institution, MIO <https://mio.gl/til-boern-og-unge/her-kan-du-faa-hjaelp/?lang=da>
- Municipalities provide contact information on social support workers as a part of the project 'Najorti' (<https://sermersooq.gl/da/boernetelefonen-og-socialvagten/>).
- The Greenland police force operates a response chain of care where they are contacted as a first response, also for suicide attempts and suicides (tel +299 321448). This is a national offer.

For professionals

- Community-based courses on suicide prevention, which instructors deliver in Greenlandic and in collaboration with between med the Greenlandic government, Paarisa og Greenlandic municipalities and Livslinien Danmark (<https://knr.gl/da/nyheder/kornelia-rungholm-har-laert-tale-om-selvmoerd-jeg-kan-redde-mennesker>)
- Training of local instructors in suicide prevention in Greenland.

Support for bereaved by suicide and affected by suicide attempt

- No national offer exists for bereaved, or people affected by suicide attempt.
- Counselling helping for people in grief in general (<https://sorgcenter.dk/2022/02/28/samarbejde-om-ny-groenlandsk-sorglinje/>)

National alliances for suicide prevention

- Steering group meeting are being held to ensure implementation of the national plan for suicide prevention, Qamani.
- National collaboration between the self-government, Paarisa, Centre for Public Health in Greenland, municipalities, NGOs and public entities, as well as representatives from local communities.

Research institutions for suicide prevention

- Centre for Public Health in Greenland at University of Southern Denmark conducts research on suicide and suicide prevention and collaborates with the national prevention team, Paarisa. (<https://www.sdu.dk/da/sif/forskning/groenland>)

Statistics on suicide

- Once a year the police publish a report where threats of suicides, suicide attempts and suicides are reported. <https://politi.gl/aktuelt/statistik-og-udgivelser/aarsstatistik>
- Publicly available data on number of suicides are available on Statistics Greenland's databank. <https://bank.stat.gl/pxweb/en/Greenland/>

APPENDIX 7: RESOURCES FOR SUICIDE PREVENTION IN ICELAND

Suicide prevention in general

- The national action plan for suicide prevention is published by the Directorate of Health (<https://www.stjornarradid.is/lisalib/getfile.aspx?itemid=77110b10-4f85-11e8-942b-005056bc530c%20>)

General support

- The website sjalfsvig.is (suicides.is) is under the tutelage of the Directorate of Health. It contains information and support for persons with suicide ideations, suicide attempts and support for those bereaved after suicide, as well as links to all existing resources in Iceland.
- Heilsuvera.is is a portal providing general health care information as well as information on mental illness and suicidality for individuals in distress and family.

Telephone helplines

- The [Red Cross Helpline open 24/7](http://www.raudikrossinn.is/verkefni/innanlandsverkefni/heilbrigdi-og-velferd/hjalparsiminn-1717-og-netspjallid/) and from 2014 also Red Cross online chat open 24/7 (<https://www.raudikrossinn.is/verkefni/innanlandsverkefni/heilbrigdi-og-velferd/hjalparsiminn-1717-og-netspjallid/>).
- Primary Health Care Information is a service providing telephone and online chat with referrals open 24/7 (<https://laeknavaktin.is/>)
- Pieta Association, suicide prevention helpline, telephone 24/7 (<https://pieta.is/>)
- Emergency telephone: 112 and Emergency Online Chat open 24/7 (<https://www.112.is/>)

For professionals

- Safety checklist to be used in suicide prevention in medical and treatment institutions, residential centers and nursing homes (<https://island.is/en/suicide-prevention-strategies/oryggisgatlisti>).
- A five-hour web-based seminar on the assessment of suicide risk has been conducted for all professional staff at all inpatient and outpatient psychiatric hospital departments. New staff receive this training as well. The same program has been conducted for professionals in General Health Care. Furthermore, medical students in their fifth year, as well as cand. psych. students receive this training.
- DPT STEPS-A is in the process of implementation. It is currently being test-run in four schools.
- Implementation procedures for the availability and use of opioid antagonists, naloxone in police and ambulance vehicles and in high-risk situations. Instructions on how to use the medications are included (<https://www.facebook.com/raudikrossinn/videos/562950002668395/>).
- On the Directorate of Health website, guidelines for places of work recommending responses to sudden death, including suicides (<https://island.is/en/suicide-prevention-strategies>). These guidelines on workplace response have been presented at a seminar at the Directorate of Health in Iceland (<https://vinnustadir.heilsueflandi.is/>)

Support for bereaved by suicide and affected by suicide attempt

- Sorgarmiðstöð, The Grief Center (<https://sorgarmidstod.is/>). The service includes lectures, published support material, peer support and support groups for the bereaved after suicide. Also, special *closed* support groups are conducted if a loved one has died due to addiction. The service is free.
- The Pieta association also offers *open* support groups for the bereaved (<https://pieta.is/>). The service is free.
- The non-profit organization Örninn provides support to children who have experienced loss (<https://www.arnarvaengir.is/>).

National alliances for suicide prevention

- The Center for Suicide Prevention was recently formalized at the Directorate of Health. The Center takes over current projects to follow up on the National Suicide Prevention Plan.

Research institutions for suicide prevention

- The Center for Suicide Prevention is in the process of launching a study of suicide risk factors in Iceland.

Statistics on suicide

- Statistics on suicides in Iceland, sex and age at death, are published by the Directorate of Health at six-month intervals, it is accessible online through an interactive dashboard (<https://island.is/en/tolfraedi-um-sjalfsvig>).
- Statistical database, Statistics Iceland (<https://px.hagstofa.is/pxen/pxweb/en/>)

APPENDIX 8: RESOURCES FOR SUICIDE PREVENTION IN NORWAY

Suicide prevention in general

- Ministry of Health. National Strategy for Suicide Prevention 2020–2025 (<https://www.regjeringen.no/no/dokumenter/regjeringens-handlingsplan-for-forebygging-av-selv mord-2020-2025/id2740946/>)

General support

- The Norwegian Directorate of Health (<https://www.helsedirektoratet.no/tema/selvskading-og-selv mord>): Online portal for local and national guidelines for suicide prevention.
- The Norwegian Institute of Public Health (<https://www.fhi.no/ps/selv mord/>): Online portal for information related to suicide and suicide prevention for individuals at risk of suicide, next of kin, clinicians and the general public.
- Helse Norge (<https://www.helsenorge.no/psykisk-helse/selv mordstanker-og-selv mord/har-du-selv mordstanker/>): Online portal aimed at individuals at risk for suicide, providing advice and links to other help resources.
- VIVAT (<https://vivatselv mordsforebygging.net/>): A course provider financed by the Norwegian Directorate of Health, delivering a range of suicide preventive training programmes. Aimed at both the general population as well as health care personnel.
- Norwegian Armed Forces Suicide Prevention Program (<https://www.forsvaret.no/soldater-og-ansatte/selv mordsforebyggende-arbeid>)
- Youth Aware of Mental Health in Norway (<https://mentalhelse.no/vart-arbeid/prosjekter/yam/>)

Telephone helplines

- Kirkens SOS (<https://www.kirkens-sos.no/>) is a NGO helpline that offer anonymous supportive conversation aimed at people in crisis. They offer support by phone, chat and e-mail. Open 24 hours, 365 days a year.
- Mental Helse Hjelpetelefonen (<https://mentalhelse.no/fa-hjelp/hjelpetelefonen/>) is a NGO helpline for people with mental health challenges. They offer support by phone, chat and e-mail. Open 24 hours, 365 days a year.
- Mental Helse Ungdom Hjelpechat (<https://mentalhelseungdom.no/vare-lavterskeltilbud/chat/>), a NGO mental health chat service aimed at young adults aged 18–36. Open Monday-Friday, 18.00–21.00.
- Kors på halsen (<https://rodekors.service-now.com/x/tnrc/korspahalsen/index>) is a NGO helpline ran by the Red Cross, aimed at children and adolescents. They offer support by phone, chat and e-mail. Phone is open Monday-Friday 14.00–22.00, chat is open all days 14.00–22.00.
- Snakk om psyken (<https://www.snakkompsyken.no/>), an NGO mental health chat service aimed at children and adolescents. Ran by Blue Cross, and open Monday-Thursday 14.30–21.00 and Sunday 15.00–21.000.
- Alarmtelefonen for barn og unge (<https://www.116111.no/>): A NGO crisis help line aimed at children and adolescents experiencing violence, abuse or neglect. They offer support by phone and chat. Open 24 hours, 365 days a year.
- Psyktærilig chat (<https://www.psyktaerlig.no/f%C3%A5-hjelp>): A NGO mental health chat service available irrespective of age, open Monday, Wednesday and Friday 18.00–22.00.
- National Centre for Suicide Research and Prevention Crisis Support Web resource (<https://nssfinfo.no/>)
- Green Line (Grønn Linje) - Crisis telephone service for military personnel (<https://www.forsvaret.no/soldater-og-ansatte/soldat/noen-a-snakke-med>)

For professionals

- National Centre for Suicide Research and Prevention (<https://www.selmord.no>), Training resources, Knowledge resources, Instruction films, E-learning resources.
- Suicidologi (Norwegian Journal of Suicidology) (<https://www.med.uio.no/klinmed/forskning/sentre/nssf/kunnskapsressurser/Tidsskriftet-suicidologi/index.html>).
- Regional Resource Centers for violence, traumatic stress and suicide prevention (<https://www.rvts.no/>). The regional centers provide resources, education and guidance in the treatment and preventative efforts at a local level. RVTS manages the site <https://www.snakkomselmord.no/>, an online resource site for health personnel that is aimed at increasing knowledge and understanding in the treatment of suicidality.
- Utdanningsdirektoratet (<https://www.udir.no/kvalitet-og-kompetanse/sikkerhet-og-beredskap/skolens-selvmondsforebyggende-arbeid/forebygge-selmord-ressurser-til-bruk-i-arbeid-med-personale/>): Online portal aimed at school personnel, providing links to resources and information for suicide preventative work within the school system
- Tiltakshåndboka (<https://tiltakshandboka.no/no/tilstander/tilstandsgruppe-selvskading-og-selvmondsatferd/ressurser>): Handbook for intervention, an online encyclopaedia for up-to-date evidence on interventions for suicidal and self-harming behaviour.
- Legevakthåndboken (<https://lvh.no/>): An online tool primarily for medical health personnel, providing a guide to procedures for suicide risk assessment and intervention.
- Helsebiblioteket (<https://www.helsebiblioteket.no/>): Provides free access to knowledge resources such as guidelines, journals and research on suicide related topics for health personnel.
- SIMPLE - Digital training resource for suicide prevention (<https://www.solli.no/nyheter/simple-digital-treningsplattform-for-selvmondsforebygging>)
- Life on the agenda (Livet på timeplanen) - Suicide prevention programme for schools (<https://livetpatimeplanen.no/>)
- YAM - Youth Aware of Mental Health - Suicide prevention programme for schools (<https://mentalhelse.no/vart-arbeid/prosjekter/yam/>)

Support for bereaved by suicide and affected by suicide attempt

- LEVE (<https://leve.no/>): National association (NGO) for people bereaved or affected by suicidal behaviour. LEVE offers support through individual conversations and group-sessions, as well as organizes local activities and meeting points. They also arrange courses, webinars and awareness work, and are responsible for the marking of the World Suicide Prevention Day.
- National Portal for Bereavement Support Groups (<https://www.sorggrupper.no/>)
- National Alliance for Relatives (<https://parorendealliansen.no/>)
- National Association for Next of Kin in Mental Health (Landsforeningen for pårørende innen psykisk helse) (<https://pjosenteret.no/>) (www.lpp.no)
- iFightDepression tool (<https://ifightdepression.com/no/selvhjelpsressurser/ifightdepression-verktoyet>) Self-help tool for depressed people. Adult version and adolescent version.

National alliances for suicide prevention

- Landsforeningen for forebygging av selvskaiding og selvmord (LFSS) (<https://lfss.no/>). A NGO user organization aimed at reducing stigma and promoting openness in the societal debate concerning suicide and self-harm.

Research institutions for suicide prevention

- The National Centre for Suicide Research and Prevention (NSSF) (www.selvmord.no). The NSSF is involved in a broad range of suicide preventative efforts, such as clinical and registry-based research, providing suicide related resources, and arranging the national conference for suicide prevention in Norway. The NSSF is responsible for coursing in clinical suicidology for mental health specialists, training in Therapy for Prolonged Grief Disorder and Dialectical Behavioral Therapy and the publication of the peer-reviewed journal Suicidology (<https://journals.uio.no/suicidologi/issue/archive>).
- Norwegian Public Health Institute, Department of Mental Health and Suicide (<https://www.fhi.no/en/ab/departments-and-centres/menta-health-and-suicide/>).

Statistics on suicide

- Dødsårsaksregisteret (<https://statistikbank.fhi.no/dar/>): The national death registry providing statistics on completed suicides.
- Kartleggingssystemet (<https://www.med.uio.no/klinmed/forskning/sentre/nssf/kartleggingssystemet/>): The Norwegian Surveillance System for Suicide in Mental Health and Substance Use Services describes all suicide deaths in Norway that occur within one year after contact with mental health and substance misuse services.
- NSSF – Introduction to suicide statistics <https://www.med.uio.no/klinmed/forskning/sentre/nssf/kunnskapsressurser/statistikk-selvord/index.html>

APPENDIX 9: RESOURCES FOR SUICIDE PREVENTION IN SWEDEN

Suicide prevention in general

- THE NATIONAL ACTION PROGRAMME FOR SUICIDE PREVENTION: A national action program for suicide prevention adopted by the Swedish Parliament in 2008 and led by the Public Health Agency and the National Board of Health and Welfare, in close cooperation with 24 other authorities. <https://www.folkhalsomyndigheten.se/the-public-health-agency-of-sweden/living-conditions-and-lifestyle/suicide-prevention/national-action-programme-for-suicide-prevention/>

General support

- Vårdguiden 1177 (<https://www.1177.se/>) it is the national portal for health-care access and information. They provide information for individuals at risk of suicide and next of kin. The website link to external resources such as helplines and organizations working with suicide prevention.

Telephone helplines

- MIND (<https://mind.se/>) is an independent non-profit organization that works for mental health. They offer a suicide preventive helpline (självordlinje) that offers support via phone and chat around the clock, every day.
- Children's Rights in Society (<https://www.bris.se/>) is an independent organization that offers support services for children and young adults up to 18 years old. Their helplines are available every day, all day, via phone, chat, sms and email. They also offer counselling and support groups.
- Svenska kyrkan (<https://www.svenskakyrkan.se/palvelevapuhelin>). Their helpline is available every day from 21pm to 23pm, the chat is available Thursday and Sunday from 18pm to 21pm.

- Jourhavande Kompis (<https://www.rkuf.se/fa-hjalp/jourhavande-kompis>) <https://www.rodakorset.se/var-hjalp-i-sverige/aktiviteter-och-gemenskap/chatt-kan-ge-stod-till-unga/> is an anonymous support chat provided by the Red Cross for those up to the age of 25. The chat is open Monday-Thursday 18:00–21:00 and Saturday-Sunday 14:00–17:00.
- Jourhavande Medmänniska (<https://www.jourhavande-medmanniska.se/>) is an independent non-profit organization that runs emergency telephone and chat activities. Their phone helpline is available every day from 21pm to 6am.

For professionals

- National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP) (<https://ki.se/nasp>) is the expert body for suicide prevention at the State level and at the Stockholm Regional level. Their main activities involve research and analysis and follow up of epidemiological data and dissemination of evidence-based guidelines and information through education, information channels and networks, reports and via the Internet.
- The Public Health Agency of Sweden, a government agency under the Ministry of Health and Social Affairs, coordinates mental health and suicide preventive efforts on a national level. The agency provides a platform for networks between other national agencies, NGOs and regional coordinators within suicide prevention. It also provides knowledge dissemination (<https://www.folkhalsomyndigheten.se/the-public-health-agency-of-sweden/living-conditions-and-lifestyle/suicide-prevention/>).
- The National Board of Health and Welfare maintain the Swedish Cause of Death Register, which is updated annually (usually in June). They have also several government commissions related to suicide prevention, among them providing knowledge on suicide prevention in health and social care (<https://www.socialstyrelsen.se/kunskapsstod-och-regler/omraden/psykisk-ohalsa/suicid-och-suicidprevention/>).
- SUICIDE ZERO (<https://www.suicidezero.se/>): An organization that support and contribute to suicide prevention research, offers training for individuals, companies, healthcare and school staff, and conduct advocacy work.

Support for bereaved by suicide and affected by suicide attempt

- SPES (<https://spes.se/>) is a non-profit organization which provides support and counselling for people bereaved by suicide or affected by suicidal behavior. They offer support via phone, chat, counselling meetings and self-help groups.
- New guidelines for supporting bereaved by suicide have been developed (<https://www.folkhalsomyndigheten.se/contentassets/473c8d91a7774fd5b7c2a82b803ea9a2/stod-till-efterlevande-vid-suicid-samlad-kunskap-for-yrkesverksamma.pdf>)

Research institutions for suicide prevention

- National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP) (<https://ki.se/nasp>): Since 1993, the National Centre for Suicide Research and Prevention (NASP) has been Stockholm County Council's advisor on Suicide Research and Prevention of Mental Ill-Health, and since 1994, NASP has been the Government's Expert in Suicide Prevention

Statistics on suicide

- Statistics Sweden (<https://www.scb.se/>) is responsible for official statistics and other government statistics.
- The National Board of Health and Welfare (<https://www.socialstyrelsen.se/>) administer different the National Patient Register.

APPENDIX 10: RESOURCES FOR SUICIDE PREVENTION IN AALAND

Suicide prevention in general

- THE NATIONAL ACTION PROGRAMME FOR SUICIDE PREVENTION: A national action program for suicide prevention adopted by the Government of Aaland in 2019, which holds 43 action points for suicide prevention. https://www.regeringen.ax/sites/default/files/attachments/article/program_for_suicidprevention.pdf

Telephone helplines

- In collaboration with services in main Finland, following services are offered:
Crisis helpline: <https://mieli.fi/en/support-and-help/crisis-helpline/>
Crisis counselling: <https://mieli.fi/en/support-and-help/mieli-crisis-centre-helsinki/>
Chat Sekasin: <https://sekasin.fi/se/> (12–29 y Mon-Fri 9–15)
Chat Ärligt talat: <https://arligttalat.fi/> (13–29 y Mon-Fri 9–12, 19–22)

Support for bereaved by suicide and affected by suicide attempt

- Individuals bereaved by suicide are offered support through the public health care, which is free of charge. A nurse will contact and be in touch with relatives over the course of three days.

Statistics on suicide

- Statistics and Research Åland (<https://www.asub.ax/en>) publishes official statistics on causes of death.

About this publication

Prevention of suicide and suicide attempts in the Nordic countries

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