



Nordic perinatal statistics 2022

Birth rates declined in all Nordic countries

MAIN FINDINGS

- The number of live born children decreased in all Nordic countries.
- Finland's total fertility rate is the lowest in the Nordic countries.
- The mean age of parturients has risen in all the Nordic countries since the 1980s.
- The share of parturients with BMI over 30 before pregnancy or in early pregnancy was the highest in Finland (19.5%).
- Caesarean sections have become more common in the Nordic countries over the past four decades. In 2022, the highest proportion was in Denmark (20.1%) and the lowest in Norway (16.1%).
- As in all caesarean sections, the highest proportions of planned caesarean sections were in Denmark, Finland and Sweden (7.9-8.3%).

In 2022, around 265 000 live born children were born in the Nordic countries, which a decrease of 8.3 per cent compared to 2021. This is the biggest annual change in the number of newborn children during the monitoring period of this statistics running from the year 1975. The number of live born decreased in all Nordic countries (7.8 %–9.8 % compared to year 2021). Total fertility rate also decreased in all Nordic countries in 2022. Like in recent years before, it was still the highest in Iceland (1.59) and Denmark (1.55) and distinctly lowest in Finland (1.32).

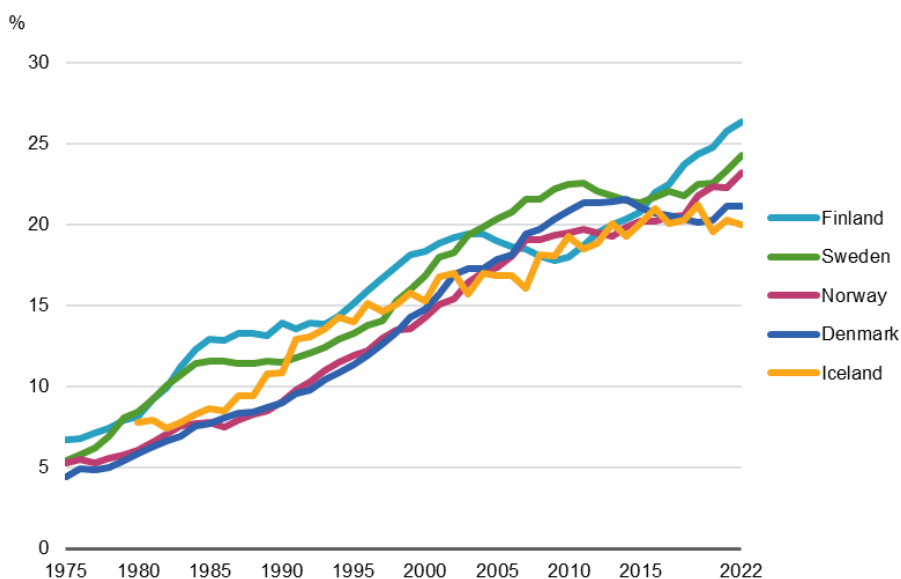
Parturients are getting older in all Nordic countries. The mean age of both all parturients and primiparas rose in 2022 in all the Nordic countries. The proportion of parturients aged 35 and over was the highest in Finland (26.4 %, other Nordic countries 20.0–24.3%). The higher age of women giving birth is associated with several risks and interventions related to childbirth, as well as the total fertility rate.

Caesarean sections have become more common in the Nordic countries over the past four decades. In 2022, Denmark (20.1%), Finland (19.6%) and Sweden (19.1%) had the highest proportion of caesarean sections. For primiparas, the proportion of caesarean sections was clearly highest in Finland (24.3%). Also, the proportion of planned caesarean sections was highest in Denmark (8.3% of all births), Finland and Sweden (7.9% in both).

For the first time in 2022, Nordic data on BMI was collected for this statistic. The proportion of parturients with BMI over 30 before pregnancy or in early pregnancy was highest in Finland (19.5%) and Sweden (17.6%) and slightly lower in Denmark (15.2%) and Norway (14.8%). Information for Iceland was not available. The share has increased in all Nordic countries during the 2000's.

Maternity units in hospitals have been closed during the last ten years in all Nordic countries. Denmark and Sweden have most births per maternity hospital. The number of births per hospital has increased in all the Nordic countries during the last ten years. However, in 2022 due to declining fertility rates it decreased slightly in Denmark, Sweden and Norway compared to 2012.

Figure 1. Parturients over the age of 35 in 1975–2022, %



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The statistical data

The Nordic perinatal statistics contain statistical data concerning parturients, deliveries and newborns in all the five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden). The purpose of the statistics is to collect data for research and development of maternity care, obstetrics services and the care of newborn infants.

The statistics are mainly based on information from the Nordic Medical Birth Registers. These registers include data on all deliveries and newborn children in each country according to national definitions.

The Finnish Medical Birth Register was established in 1987.

Corresponding registers were established in Norway in 1967, in Iceland in 1972 and in Sweden and Denmark in 1973.

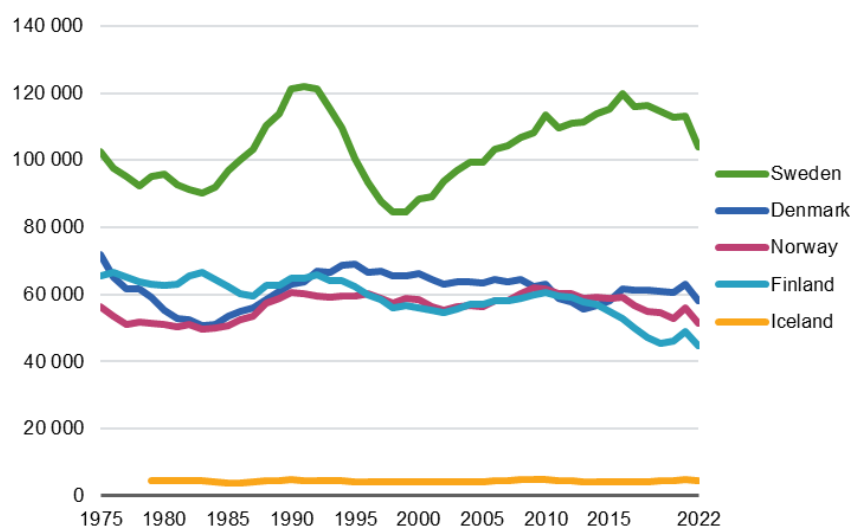
The Association for Nordic Medical Birth Registers (NOMBIR) has designed and developed the content of the statistics. NOMBIR agrees on and confirms the terms and definitions used. The aim is to ensure the comparability of statistics from different countries.

In addition to birth registers, statistical data from Eurostat, OECD (Organisation for Economic Co-operation and Development), WHO (World Health Organization) and ESHRE (European Society for Human Reproduction and Embryology) are utilised in this report.

Fertility

In 2022, around 265 000 live born children were born in the Nordic countries, which was 8.3 per cent less than the year before. The number of live born children decreased in all Nordic countries, most in Iceland (-9.8%) and the least in Denmark (-7.8%). ([Sotkanet ind. 10074](#))

Figure 2. Number of deliveries in the Nordic countries 1975–2022



In 2022, Sweden accounted for 40 per cent of all live born children in the Nordic countries (104 854 live births), while Finland, Norway and Denmark accounted for 17–22 per cent with 45 057–58 668 live births. Iceland had 4395 live births, representing 1.7 per cent of all live births in the Nordic countries. ([Sotkanet ind. 10074](#))

In 2022, the total fertility rate¹ decreased in all Nordic countries. Finland's total fertility rate is still the lowest in the Nordic countries after a decline that continued the whole 2010's. In 2022, total fertility rates varied between 1.32 (Finland) and 1.59 (Iceland). ([Sotkanet ind. 10072](#))

The total fertility rate has also decreased elsewhere in Europe. In 2022, the lowest fertility rates in Europe were in Malta (1.08) and Spain (1.16). The highest fertility rate in Europe was in France (1.79). Despite the decline in 2022 especially the Icelandic fertility rate (1.59) was still fairly close to the European top.²

Multiple births have become more common in all Nordic countries since the 1980s. The most important reason for this is the increased use of assisted reproductive technology (ART treatments). As methods of assisted fertility treatments have improved, the proportion has declined since early 2000's. In 2022, among the Nordic countries, the multiple birth rate varied between 12.6 per 1000 births (Sweden) and 15.0 (Iceland). ([Sotkanet ind. 10105](#))

There are differences in both the practices of assisted reproductive technology and the number of started treatment cycles that partly explain the differences in multiple births. Single-embryo transfers are significantly more common in the Nordic countries than in Europe in general. In 2019, the proportion was the highest in Iceland (100% of all fresh transfer cycles) and Finland (95.7%). The number of initiated fertility treatments also varies by country. The number of fertility treatments, adjusted by population size, is the highest in Denmark among the Nordic countries.³

¹ Calculated number of children that are born to a woman over her lifetime. More information, see Term and definitions. Finnish numbers are based on [statistics by Statistics Finland](#) (14.2.2024)

² [Eurostat Statistics Database](#) (Tables by themes - Population and social conditions - Demography, population stock and balance - Fertility). (18.3.2024)

³ The European IVF-Monitoring Consortium (EIM) for the European Society of Human Reproduction and Embryology (ESHRE); Smeenk, Wyns, De Geyter et al. [ART in Europe, 2019: results generated from](#)

Maternity units

The number of maternity units has declined in all Nordic countries in the past decade. The size of the closed maternity units varies across the countries. While for example Finland has closed units with less than 1 000 deliveries annually, Norway has focused on units with less than 300 deliveries annually.

Adjusted by the number of deliveries, Denmark and Sweden has clearly most deliveries per maternity unit (on average 2300 deliveries per unit per year). Although the number of births per hospital has increased in all the Nordic countries during the last ten years, due to decline in the fertility rates it decreased slightly in Denmark, Sweden and Norway in 2022 compared to figures in 2012. (Figure 3.)

Figure 3. The average number of births per maternity units in the Nordic countries in 2012 and 2022

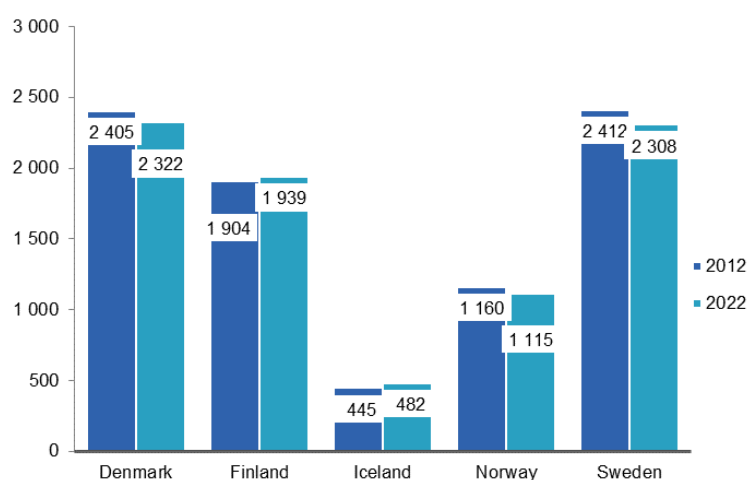


Table 1. The number of maternity hospitals in the Nordic countries in 2012 and 2022

	2012	2022
Denmark	24	25
Finland	31	23
Iceland	10	9
Norway	52	46
Sweden	46	45

Parturients

In the Nordic countries, women in 2022 gave birth at a higher age than previously, and the mean age of parturients has risen since the 1980s in all the Nordic countries. In 2022, the mean age of primiparas was 28.4–30.1 years, while four decades earlier the mean age was 22.4–25.4 years ([Sotkanet ind. 10109](#)). In 2022, the mean age for all parturients was 30.3–31.7 years ([Sotkanet ind. 10108](#)).

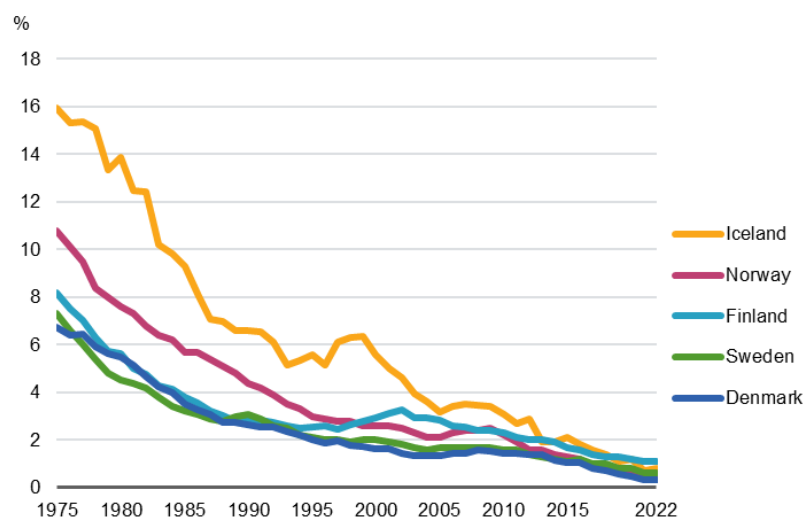
Similarly, the proportion of parturients aged 35 and over has increased considerably in all the Nordic countries since the early 1980s, when less than 10 per cent of parturients were aged 35 and over. In 2022, the corresponding proportion was 20 per cent or over in all Nordic countries. The proportion was the highest in Finland (26.4%) and the lowest in Iceland (20.0%). ([Sotkanet ind. 10075](#), Figure 1.)

At the same time the proportion of mothers aged under 20 years has decreased in all Nordic countries. In 2022, the proportion was 0,3–1,1. The decline has been remarkable in all Nordic countries, but the decline has been the fastest in Iceland where in the mid-1970s

more than 15 per cent of all parturients were aged under 20 (0.8% in 2022). ([Sotkanet ind. 10106](#), figure 4.)

The mean age of parturients in the Nordic countries is close to the European average (31.6 in 2022). In Europe, the lowest mean age was in Bulgaria (28.0 years in 2022) and the highest in Ireland (33.1 years in 2022).⁴

Figure 4. Parturients under the age of 20 in 1975–2022, %



In 2022, the proportion of primiparas of all parturients was highest in Denmark (45.4%) and lowest in Iceland (42.0%). In Norway, Finland and Sweden the proportion was between 43.3 and 43.7 per cent. ([Sotkanet ind. 10110](#))

Smoking during early pregnancy has significantly decreased in all Nordic countries. In Finland, the proportion of women who smoked during early pregnancy stayed relatively stable for a long time but has also decreased since 2015 and is now close to the rate in Denmark (6.6 %). The proportion in Norway and Sweden is lower (1.4 and 2.9%). Iceland had no information on smoking during early pregnancy. ([Sotkanet ind. 10111](#), Figure 5.)

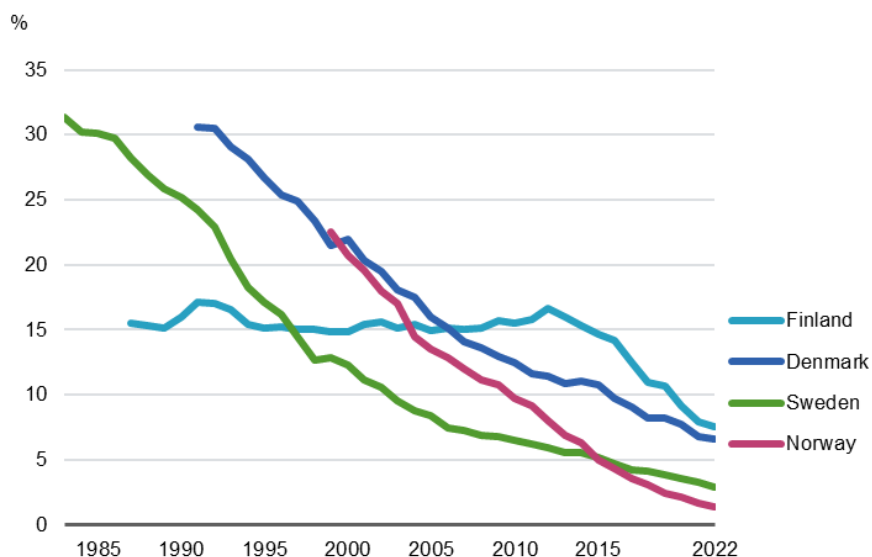
An increasing number of women who smoked at the start of pregnancy quit smoking during pregnancy, and the proportion of women who smoke at the end of pregnancy has decreased over time. Norway has had the greatest drop in the share of smokers at the end of pregnancy: Two decades ago, close to 14 per cent of parturients were smokers compared to only 0.9 per cent in 2022. The percentage of smokers at the end of pregnancy was highest in Denmark (4.7% in 2022). Iceland had no information on smoking at the end of the pregnancy. ([Sotkanet ind. 10112](#))

According to the European Health Interview Survey (EHIS) which covers the whole population, in 2019 smoking among women aged 15–44 was most common in Denmark (13.1%) and the least common in Norway (5.8 %).⁵

⁴ [Eurostat Statistics Database](#) (Tables by themes - Population and social conditions - Demography, population stock and balance - Fertility) (18.3.2024)

⁵ [Eurostat – Smoking of tobacco products](#) (14.2.2024)

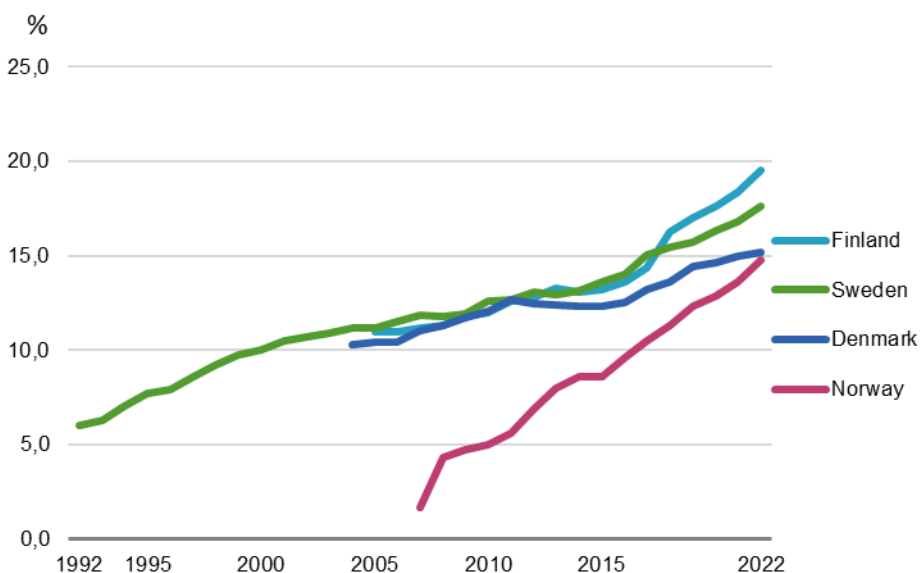
Figure 5. Parturients who smoke during early pregnancy 1983–2022, %



The proportion of parturients with BMI over 30 before pregnancy or in early pregnancy was the highest in Finland (19.5%) and Sweden (17.6%) and slightly lower in Denmark (15.2%) and Norway (14.8%). Information for Iceland was not available. The share has increased in all Nordic countries during the 2000's. ([Sotkanet ind. 10133](#), Figure 6.)

According to the self-reported data from the European Health Interview Survey (EHIS), in 2019 the proportion of women aged 15–44 was with BMI at least 30 was at the population level the highest in Iceland (18.6%) and Finland (15.0%) and lower in Norway (10.5%), Sweden (12.1%) and Denmark (13.2%).⁶

Figure 6. Parturients with BMI at least 30 before pregnancy or in early pregnancy 1992–2022, %



Delivery procedures

Caesarean sections became more common in the Nordic countries over the past four decades. In 2022, Denmark (20.1%) had the highest proportion of caesarean sections and Norway (16.1%) the lowest. Icelandic data for 2022 is not available but in 2021 the

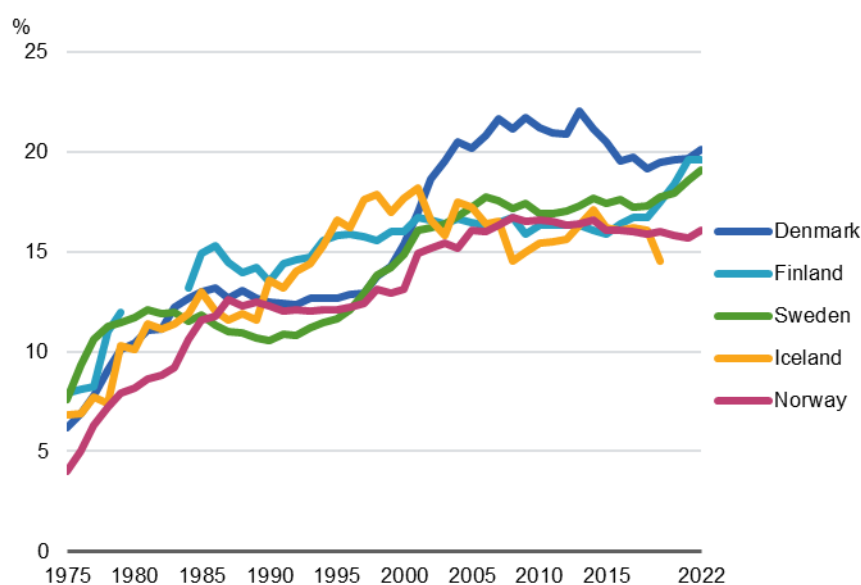
⁶ Eurostat – Body Mass Index (BMI) (14.2.2024)

corresponding share was 14.5 per cent. During recent years the proportion of caesarean sections slightly increased in Denmark, Finland and Sweden and stayed relatively stable in Iceland and Norway. ([Sotkanet ind. 10073](#), Figure 7.) Compared to the other OECD countries, the share of caesarean sections is relatively low in all the Nordic countries.⁷

In all Nordic countries, the proportion of caesarean sections is higher for primiparas than for parturients with prior deliveries. In 2022, among primiparas the proportion was lowest in Norway (18.7%) and highest in Finland (24.3%). Information for Iceland was not available. ([Sotkanet ind. 10014](#))

The proportion of planned (elective) caesarean sections follows the proportion of all caesarean sections. Like with all caesarean sections, the highest proportions of planned caesarean sections were in Denmark, Finland and Sweden (7.9-8.3%). In Norway and Iceland, the proportion was close to five per cent. The Icelandic data is from 2021. ([Sotkanet ind. 10115](#)) For primiparas the highest proportion of planned caesarean sections was in Finland (6.7%) ([Sotkanet ind.10116](#)).

Figure 7. Caesarean sections of all deliveries 1975–2022, %

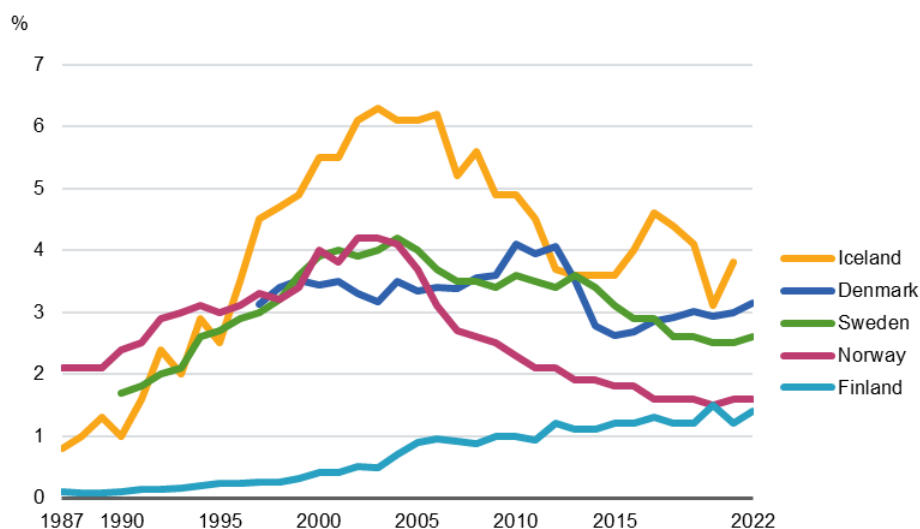


During the last decade the proportion of vacuum extraction deliveries has increased in Finland, Iceland and Norway and decreased in Denmark and Sweden. In 2022, the proportion was highest in Finland (9.8%) and lowest in Denmark (6.4%). ([Sotkanet ind. 10117](#)) Deliveries using forceps are very rare across the Nordic countries, accounting for 0.0–1.4 per cent of all deliveries ([Sotkanet ind. 10119](#)).

Third and fourth degree perineal lacerations are reported in 1.4–3.2 per cent of vaginal deliveries in the Nordic countries in 2022, Finland having the lowest proportion and Denmark the highest (3.8% in Iceland in 2021). ([Sotkanet ind. 10121](#), Figure 8.) Despite a decline in recent years in instrument-assisted deliveries (using forceps or vacuum extraction) in Denmark and Sweden, the proportion of third and fourth degree perineal lacerations continues to be significantly higher (9.8% and 12.3%) compared to Finland and Norway (3.5% and 4.0%). 2021–2022 data for Iceland is missing, but the proportion was 7.3% on 2020. ([Sotkanet ind. 10123](#))

Risk factors for third and fourth degree perineal lacerations in vaginal delivery are the use of forceps or vacuum extraction and a large newborn (birth weight over 4000 g).

⁷ [OECD Data, Caesarean sections Total, Per 1 000 live births 2021](#). (14.2.2024)

Figure 8. The proportion of third and fourth degree perineal lacerations in vaginal deliveries 1987–2022, %

Newborns

The percentage of preterm deliveries (before the 37th week of gestation) of all deliveries was 4.8–6.3 per cent in Nordic countries in 2022 and has stayed relatively stable in recent decades ([Sotkanet ind. 10124](#)). The proportion of post-term deliveries (at 42nd week of gestation or later) varied between 1.6 per cent in Finland and 3.4 per cent in Norway. 2022 data for Iceland is missing. The proportion was 1.2% in 2021. The proportion of post-term deliveries has decreased in all Nordic countries, latest this happened in Sweden. ([Sotkanet ind. 10125](#))

In 2022, Denmark had the highest (4.6%) and Sweden the lowest (3.7%) percentage of live births with a birth weight less than 2500 g ([Sotkanet ind. 10126](#)). Average birth weight in all Nordic countries was relatively similar, approximately 3500 g ([Sotkanet ind. 10128](#)).

Mortality has decreased in all Nordic countries. Of children born after 22 weeks of pregnancy, an average of 2.9 children out of a thousand are stillborn in the Nordic countries, and an average of 1.0 children out of a thousand die during their first week of life. The differences between the Nordic countries are relatively small. ([Sotkanet ind. 10130](#) and [10131](#)) These figures are among the lowest in the world.⁸

⁸ [European health for all database](#) (HFA-DB). (14.2.2024)

Terms and definitions

Body Mass Index (BMI): A measure that is used to estimate the proportionality of a person's height and weight. $BMI = \text{weight (kg)}/\text{height (m)}^2$.

Delivery: Definition of a birth varies between the countries (see stillbirth). In Finland a process resulting in at least one newborn of at least 22+0 weeks of gestation or weighing at least 500 g. Live birth is always a birth.

Live birth: Birth of a child that, irrespective of the duration of the pregnancy, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or movement of the voluntary muscles, whether or not the placenta is attached or the umbilical cord has been cut.

Stillbirth: Birth of a newborn that shows no evidence of life typical of a live birth, but complying with the definition of a birth ($\geq 22+0$ weeks of gestation or ≥ 500 g). The registration criterion is 22 weeks in all Nordic countries. Finland and Norway use the birth weight limit of 500 g as a parallel registration criterion. In this report all numbers are calculated according to the limit of 22 weeks.

Total fertility rate: The imputed number of live births experienced by a woman during their fertile period, assuming that their mortality is zero during this period and that the age-specific fertility rates for the year in question are valid throughout the reproductive period.

[More detailed information on the concepts and the definitions relating to reproductive health in Finland \(in Finnish\)](#)

thl.fi/statistics/nordiccountriesperinatalstatistics

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Quality description (OSF)

Perinatal statistics in the Nordic countries

Relevance of statistical data

The Nordic perinatal statistics contain statistical data concerning parturients, deliveries and newborns in all the five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden). The purpose of the statistics is to collect data for research, development and provision of maternity care, obstetrics services and the care of newborn infants.

The Association for Nordic Medical Birth Registers (NOMBIR) has designed and developed the content of the statistics. The association meets annually, and each country holds the presidency and performs secretarial duties three years at a time. The presidency is held by Norway in 2023–2025.

The statistical report aims to provide information to health care professionals, administrators, planning officials and researchers working in the area of reproductive health. The report text describes the concepts used in the statistics.

In Finland, the collection of data is based on the Act on the Finnish Institute for Health and Welfare (668/2008).

Description of methods

The statistics are mainly based on information from the Nordic Medical Birth Registers. These registers include data on all deliveries and newborn children in each country, covering all live births and stillbirths according to national definitions.

The Finnish Medical Birth Register was established in 1987. It contains data on all mothers who have given birth in Finland and on all newborn infants up to the age of seven days. Corresponding registers were established in Norway in 1967, in Iceland in 1972 and in Sweden and Denmark in 1973. The data content of the Nordic perinatal statistics has been expanded based on the data available in the registers. In this report, the statistics on total fertility rate is based on statistics from the national statistical authorities.

The Finnish Institute for Health and Welfare (THL) is responsible for collecting, reporting and publishing the statistics. Each country has a contact person for supplying THL with data who is also responsible for the correctness of the data for the country. Prior to release each contact person checks the report.

The statistics were published for the first time in 2005. The time series presented in the statistics are, however, updated retrospectively.

The statistical report also uses data from [Eurostat](#), [the World Health Organisation \(WHO\)](#), [Organisation for Economic Co-operation and Development \(OECD\)](#) and [the European Society for Human Reproduction and Embryology \(ESHRE\)](#) for comparative purposes at European level.

Correctness and accuracy of data

Each country is responsible for the correctness of its data. The Finnish statistics are based on the Medical Birth Register and correspond with data published in an earlier national report.

Timeliness and promptness of published data

The statistical report Nordic perinatal statistics is published by THL every other year (in even-numbered years). The report contains the most recent data available from the Nordic countries. The data collected for the Nordic perinatal statistics cover the two preceding years for which data are available. Data on earlier years can be updated where necessary.

The Finnish perinatal statistics are published in the autumn of every year at [THL's webpage](#).

Availability and transparency / clarity of data

The statistical report is available on [THL's website](#) as well as on the websites of the Nordic sister organisations. The statistical indicators are published in THL's [Sotkanet indicator portal](#).

Comparability of statistical data

NOMBIR agrees on and confirms the terms and definitions used. The aim is to ensure the comparability of statistics from different countries. The terms and definitions are revised where necessary. Previous years' data are also corrected, if necessary.

The Finnish statistics are based on the Finnish Medical Birth Register from 1987 onwards. The register has been revised in 1990, 1996, 2004 and 2017. Finnish data for 1975–1986 are based on information from [Statistics Finland](#).

The 2019 reform at the Danish birth register caused changes in the time series which should be taken into account when making comparisons.

For other Nordic countries, the time series have been completed with information from NOMESCO publications 25/1987⁹ and 39/1993¹⁰ and from WHO and Eurostat.

Clarity and consistency

All Nordic countries produce data on all the variables used in the statistics with the exception of data on smoking and BMI (Iceland). The statistics for Finland in 2020 are affected by a change in the health information system in maternity hospitals in the Helsinki metropolitan area, which has partly led to incomplete data.

The length of the presented time series varies by country. While most of the time series start in 1975, only the number of live births and the total fertility rate are available for all Nordic countries from that year onwards. In the other tables data are given for the years the data are available.

The statistics use established international terms and classifications (such as mode of delivery and perineal lacerations, of which third and fourth degree lacerations are considered as serious).

The terms and definitions related to pregnancy and newborns are based on [the International Statistical Classification of Diseases and Related Health Problems ICD-10](#) and a [Finnish handbook on the recording of diseases \(in Finnish\)](#).

Special issues concerning the 2022 statistics

The 2022 data for Iceland is partly missing from the statistical report because of the ongoing developmental work. Data for Iceland will be updated in the statistical report that will be published in 2026.

Data collected for the Nordic statistical report was revised in 2023. As new information, there are information on

- BMI for parturients (30 or over) and
- planned caesarean sections (all parturients and primiparas).

At Nordic level, information is not collected anymore on:

- number of multiple newborns (multiple births are still included)
- parturients with at least 4 earlier births
- children with birth weight of at least 4000g (birth weight of at least 4500g still included)
- children with 5-minute Apgar scores of 0-6 (Apgar scores of 0-3 still included)

⁹ Fødsler i Norden. Medicinsk fødselsregistrering 1979-1983. (Births in the Nordic Countries. Registration of the Outcome of Pregnancy 1979-1983). NOMESCO 25, Reykjavík 1987.

¹⁰ Births and Infant Mortality in the Nordic Countries. NOMESCO 39, Copenhagen 1993.

- mean birth weight of girls, boys and singletons (birth weight of all children still included)
- mortality with 1000g cut-off point (cut-off point of 22 weeks still included)

Separate appendix tables will not be published as a part of the statistical report anymore. All data collected from the Nordic countries will be published through [Sotkanet](#).

Nordic data sources

[Statistics Iceland](#)

[Norwegian Medical Birth Register, Norwegian Institute of Public Health](#)

[Swedish Medical Birth Register, National Board of Health and Welfare](#)

[Finnish Medical Birth Register, Finnish Institute for Health and Welfare \(THL\)](#)

[Danish Medical Birth Register, Danish Health Data Authority](#)