



Capturing suicide, suicide-related events, and depression in Norwegian Linked Health Registry data

Suicide, suicide-related events, and depression are major public health concerns and potential adverse drug reactions, commonly identified in real-world data through diagnostic and cause-of-death codes. Example of EMA safety assessment procedures include finasteride/dutasteride (2025), doxycycline (2024), GLP-1 receptor agonists (2024) and isotretinoin (2017). This DARWIN EU® study aimed to study how suicidality, depression, and relevant covariates are captured across European health data sources. Here, we present results from Norway using linked health registry data.

Study overview

Design: Descriptive cohort study using routinely collected health data from 20 data sources across 14 European countries.

Population: Individuals aged ≥ 10 years in Norway (NLHR, 2019–2023), with 1-year lookback period of prior observation (~ 5.2 million).

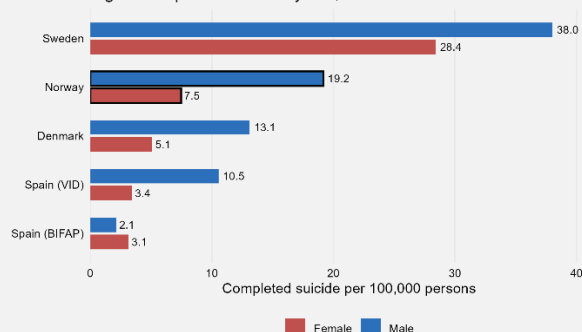
Outcomes: Completed suicide, suicidal attempt, suicidal ideation, self-harm and depression.

Covariates: Psychiatric and somatic conditions, psychotropic medications, procedures, lifestyle factors and healthcare use in the preceding year.

Completed suicide in Norway

- 3,281 individuals died by suicide during 2019–2023. Completed suicides were identified primarily through the Norwegian Cause of Death Registry.
- The incidence rate was 19.8 per 100,000 person-years in males and 7.7 in females (Figure 1).

Fig. 1 Completed suicide by sex, selected data sources 2019–2023

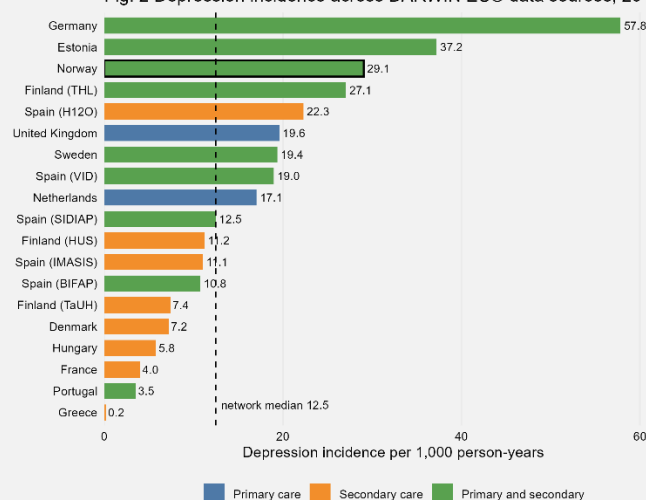


- Median age was 47 years (IQR 32–61), and 72% were male.
- The most frequently recorded prior conditions were pain (88%), depression (60%) and anxiety (52%).
- Antidepressants (45%) and hypnotics (44%) were the most frequently recorded medications.

Depression in Norway

- Depression was recorded in 537,681 individuals.
- The incidence rate was 22 per 1,000 person-years in males and 37 in females (Figure 2). Median age was 39 years (IQR 27–54), and 62% were female.
- Individuals had a median of 6 depression records during the 5y study period (IQR 2–16).
- Pain (91%) and anxiety (56%) were the most common prior conditions. Antidepressants were recorded for 41% of patients during the preceding year.

Fig. 2 Depression incidence across DARWIN EU® data sources, 2019–2023



Data & Methods notes

- About 30,000 suicide attempts were present in NLHR but not captured in this study. They should be included in future studies.
- Depression incidence in 2019 may be overestimated because some prevalent cases were classified as incident.

How was this useful?

Norwegian linked health registries provide good capture of completed suicide. However, broader and validated phenotypes are needed to identify the full spectrum of suicidality. Depression is also well captured, with Norway reporting one of the highest recorded rates in the network. These findings will support future studies of depression and suicide-related outcomes as potential adverse effects of medicines.

Access to the full report

[DARWIN EU® - Capturing suicidality and depression](#)

Contact

Hedvig Nordeng: h.m.e.nordeng@farmasi.uio.no

