

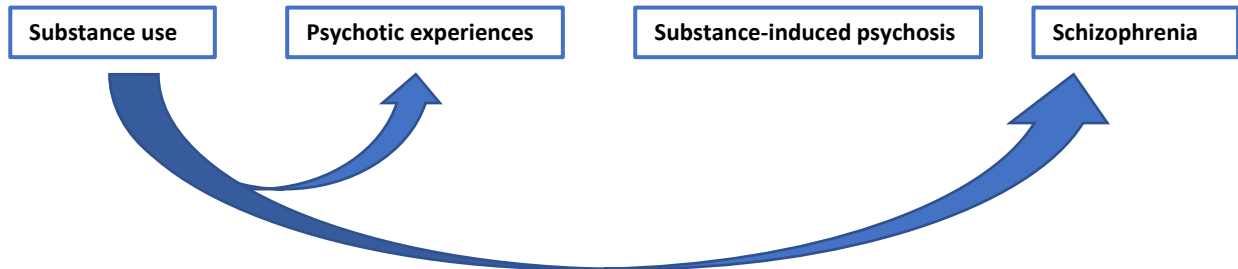
Annual incidence of substance-induced psychoses in Scandinavia from 2000 to 2016

Eline Borger Rognli

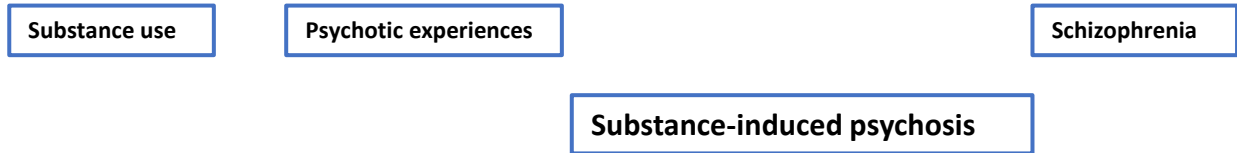
Lisbon 2022



Steps from substance use to psychosis



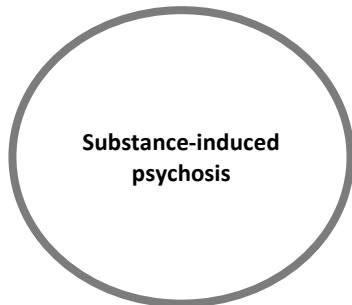
Steps from substance use to psychosis



Substance-induced psychosis

Substance-induced psychosis (SIP)

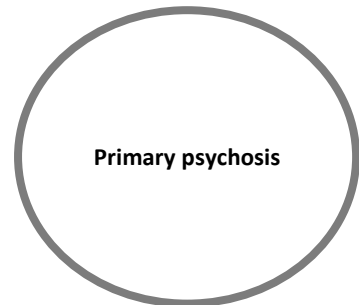
- Caused by substance use
- Symptoms decline with time and abstinence



F1x.5

Primary psychosis

- Independent of substance use
- One to six months without substance use before occurrence of psychotic symptoms



F2x.x

Substance-induced psychosis

Substance-induced psychosis (SIP)









- Caused by substance use
- Symptoms decline with time and abstinence

Primary psychosis

- Independent of substance use
- One to six months without substance use before occurrence of psychotic symptoms



Substance use trends - alcohol

- consumption per capita in Europe  *(WHO 2018; Espad-group 2020)*
- consumption in Nordic countries   *(WHO 2013; Hellman & Kettunen 2017)*
- alcohol-related mortality in Europe 
 - Denmark 
 - Sweden and Norway *(Pruckner 2019; WHO 2019)*
- driving under the influence (Norway)  *(Norwegian Institute of Public Health, 2018)*
- treatment seeking (Finland)  *(Kuussaari, Karjalainen, & Niemelä, 2020)*

Substance use trends - cannabis

- Last month use in European youth
 - Denmark, Sweden and Norway



(ESPAD Group, 2020)

*(EMCDDA 2017; EMCDDA 2020;
Bye & Bretteville-Jensen 2020)*

- Treatment seeking in Europe



(Montanari 2017, EMCDDA 2015)

- Driving under the influence



(Valen 2017)

- Seizures



(EMCDDA 2017)



Substance use trends - cannabis

- More potent products, strong increase in THC content

(Chandra 2019; Rømer-Thomsen 2019)

- Denmark vs Norway and Sweden
 - Last year use in youth: 18% vs 9% and 7%
 - Treatment seeking: 70% of all SUD treatment entrants, vs 27% and 11%

(EMCDDA 2017)



Original Article

Cite this article: Rognli EB, Taipale H, Hjorthøj C, Mittendorfer-Rutz E, Bramness JG, Heiberg IH, Niemelä S (2022). Annual incidence of substance-induced psychoses in Scandinavia from 2000 to 2016. *Psychological Medicine* 1–10. <https://doi.org/10.1017/S003329172200229X>

Received: 30 October 2021

Revised: 11 April 2022

Accepted: 4 July 2022

Key words:

alcohol; cannabis; drugs; incidence; psychosis; substance use; substance-induced psychosis

Author for correspondence:

Eline Borger Rognli,
E-mail: elboka@ous-hf.no

Annual incidence of substance-induced psychoses in Scandinavia from 2000 to 2016

Eline Borger Rognli¹, Heidi Taipale^{2,3,4}, Carsten Hjorthøj^{5,6}, Ellenor Mittendorfer-Rutz³, Jørgen G. Bramness^{7,8}, Ina H. Heiberg⁹ and Solja Niemelä^{10,11}

¹Section for Clinical Addiction Research, Oslo University Hospital, Oslo, Norway; ²Niuvanniemi Hospital, Kuopio, Finland; ³Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden; ⁴Center for Psychiatry Research, Stockholm City Council, Stockholm, Sweden; ⁵Copenhagen Research Center for Mental Health – CORE, Mental Health Center Copenhagen, Copenhagen, Denmark; ⁶Department of Public Health, Section of Epidemiology, University of Copenhagen, Copenhagen, Denmark; ⁷Norwegian Institute of Public Health, Oslo, Norway; ⁸Institute for Clinical Medicine, UiT – The Arctic University of Norway, Tromsø, Norway; ⁹Center for Clinical Documentation and Evaluation (SKDE), Tromsø, Norway; ¹⁰Department of Psychiatry, University of Turku, Turku, Finland and ¹¹Department of Psychiatry, Addiction Psychiatry Unit, Turku University Hospital, Turku, Finland

Abstract

Background. Substance-induced psychosis (SIP) is a serious condition and may predispose for schizophrenia. We know too little about SIP incidence over time and across countries, including substance-specific SIPs. We estimated annual incidence rate of SIP in Denmark, Norway, and Sweden according to substance, age, gender, and socioeconomic background.

Methods. Data were drawn from registries covering the whole adult population in the countries. Annual incidence rate per 100 000 persons of SIPs was estimated for Denmark and Sweden from 2000 to 2016 and for Norway from 2010 to 2015.

Results. The annual incidence rate of any SIP fluctuated between 9.3 and 14.1. The most commonly occurring SIPs were those induced by alcohol, cannabis, amphetamines, and multiple substances. There was a steady decrease in the incidence rate of alcohol-induced psychosis from the first to the last year of the observation period in Denmark (from 4.9 to 1.5) and Sweden (from 4.5 to 2.2). The incidence rate of cannabis-induced psychosis increased in all countries, from 2.6 to 5.6 in Denmark, from 0.8 to 2.7 in Sweden, and from 1.8 to 3.0 in Norway. Median age of any SIP decreased in Denmark (from 36 to 29 years) and Sweden (from 41 to 31 years). Incidence rates were higher in men and in individuals on disability pension, and increased more among those with high parental education.

Conclusions. We found similar and stable incidence rates of any SIP in all Scandinavian countries through the observation period. The incidence of alcohol-induced psychosis decreased. The incidence of cannabis-induced psychosis increased.

enor
olja

o,
rchr

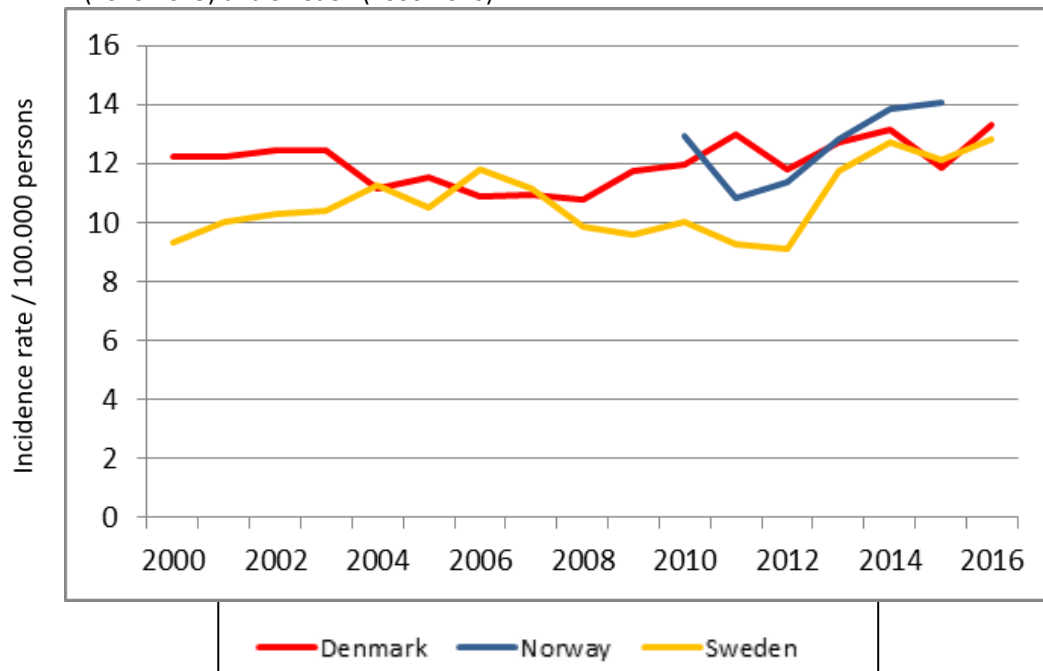
stitute of
orway.
r:city of

Annual incidence: m&m

- F1x.5 from Norway (2008-2015), Denmark and Sweden (1998-2016)
- Washout first two years for primary psychosis. Presented annual incidence rates (IR) per 100.000 persons.

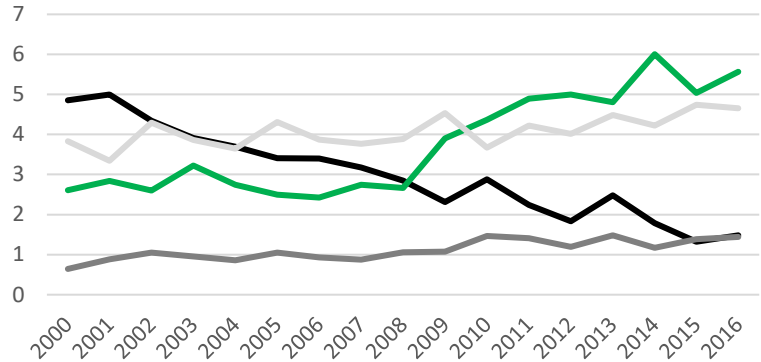
Annual incidence: results

Annual incidence of substance induced psychoses in Denmark (2000-2016), Norway (2010-2015) and Sweden (2000-2016)

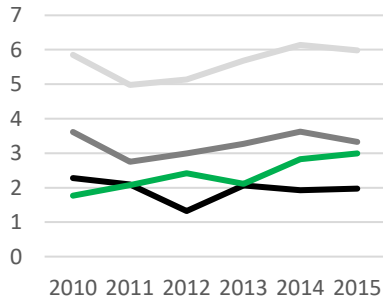


Annual incidence of psychosis induced by alcohol, cannabis, amphetamine and multiple substances in Denmark (2000-2016), Norway (2010-2015) and Sweden (2000-2016)

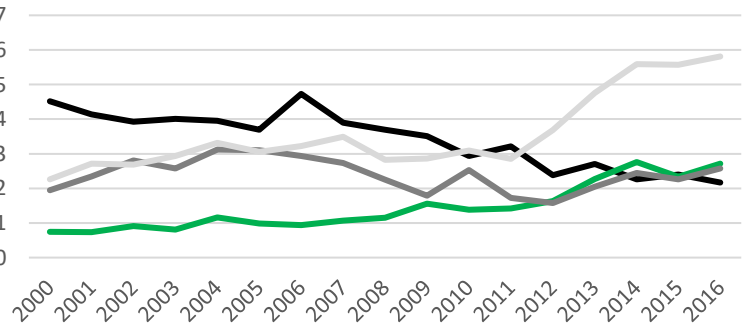
Denmark



Norway

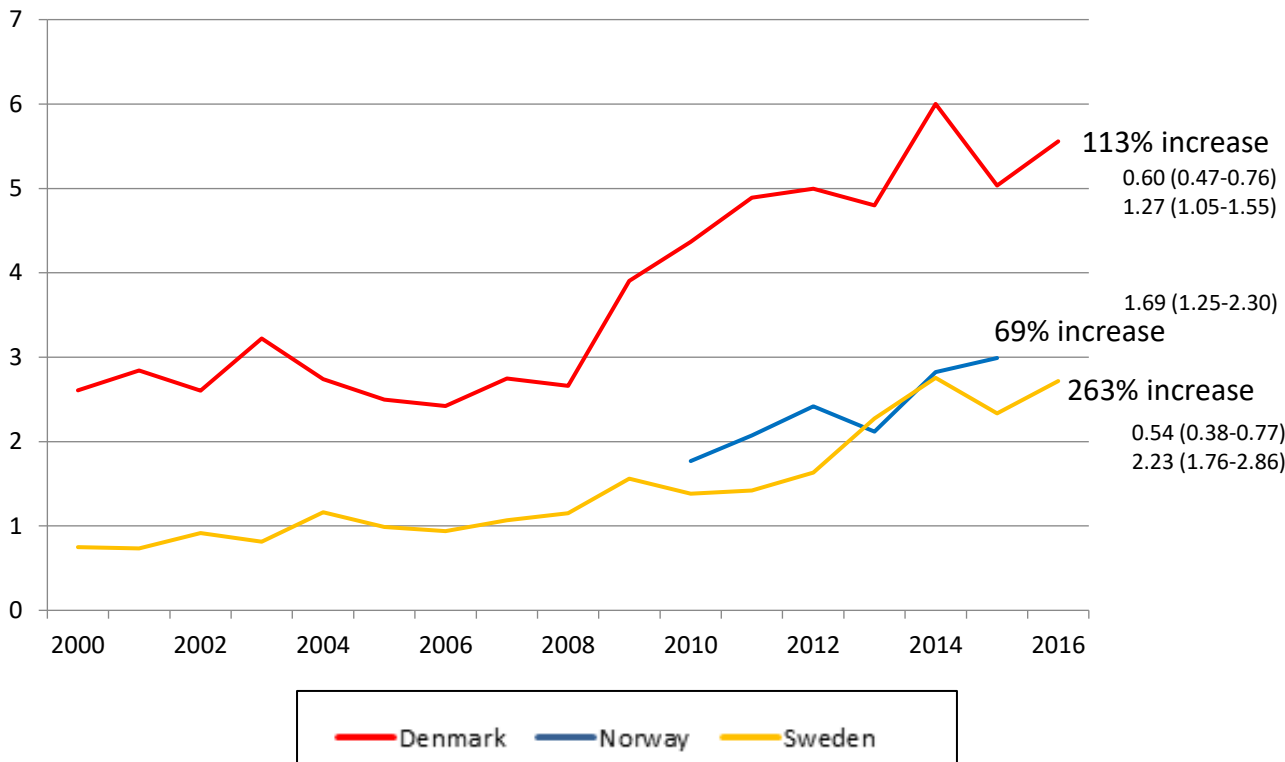


Sweden

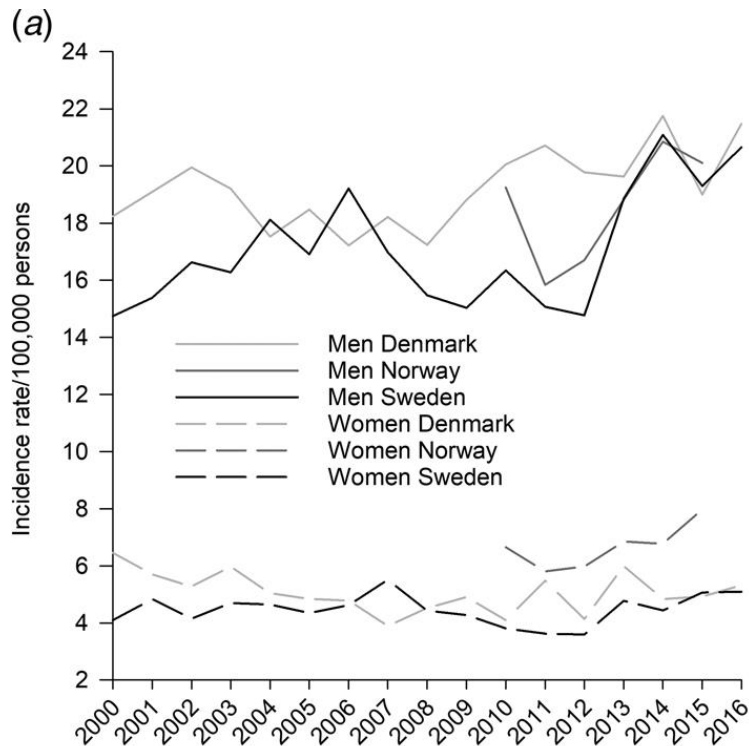


Annual incidence of cannabis-induced psychosis in Denmark (2000-2016), Norway (2010-2015) and Sweden (2000-2016)

IRR (95% CI) first and last year, 2010 reference year

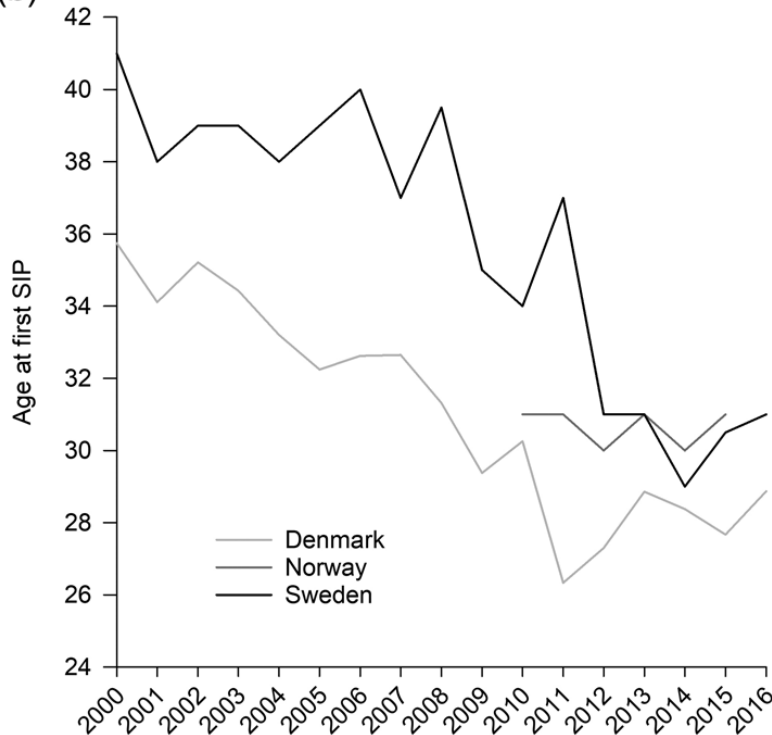


Incidence of SIP according to gender



Mean age for incident SIP over time

(b)



Summary

- Stable and comparable incidence rates of any SIP in Scandinavia
- Annual incidence of cannabis-induced psychosis has increased
 - This mirrors changes in consumption and product content, and differences in use between the countries
- Alcohol induced psychosis has decreased
- People with incident SIP have become younger
- SIP occurs three times as often in men as in women

Thank you for your attention
elboka@ous-hf.no