

# Suicide Mortality and Suicide Prevention in Finland

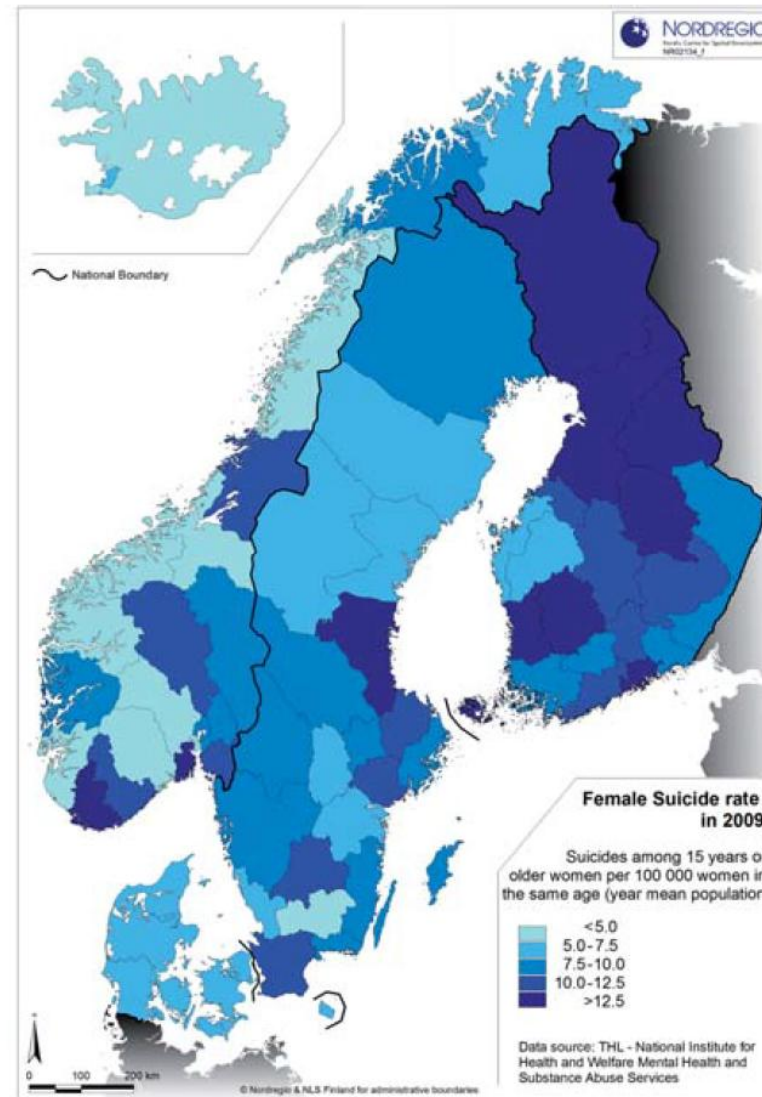
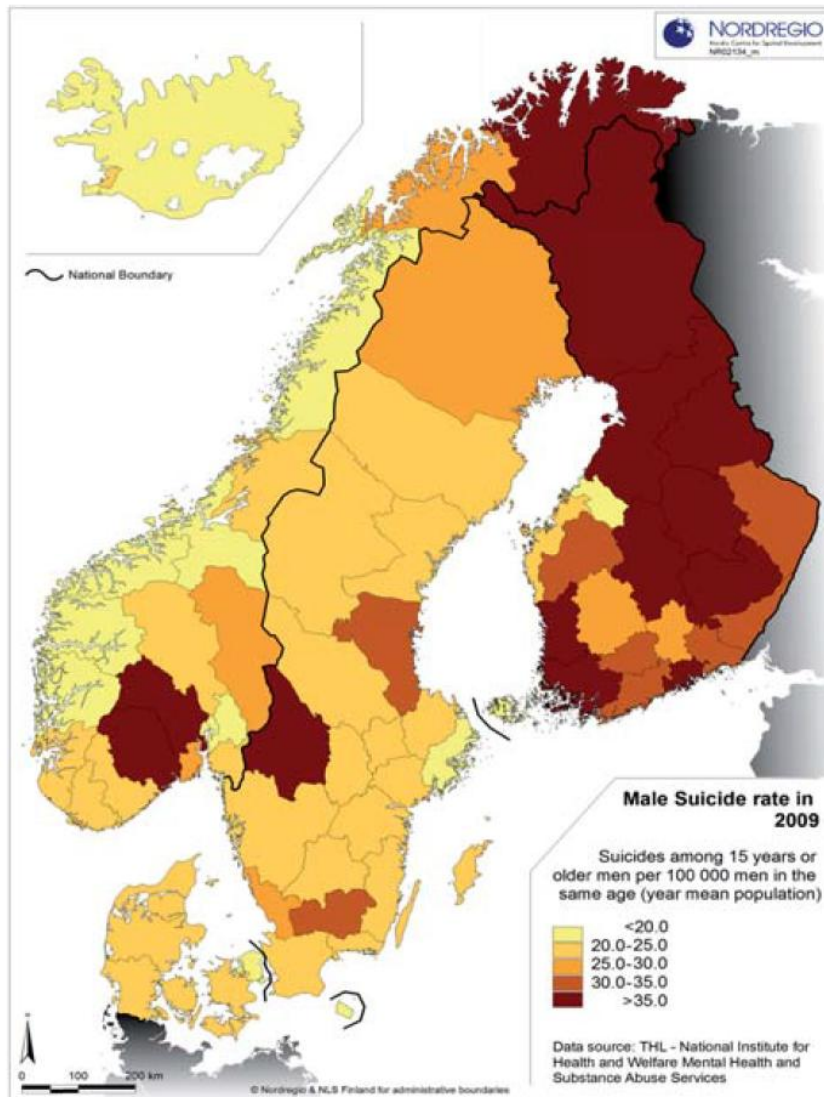
Erkki T. Isometsä, MD, PhD

Professor of Psychiatry,

Department of Psychiatry.

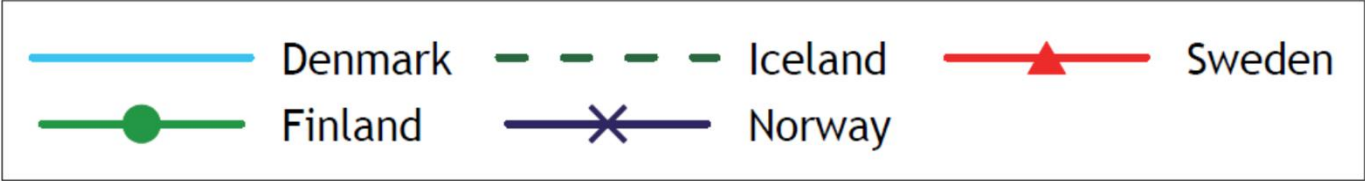
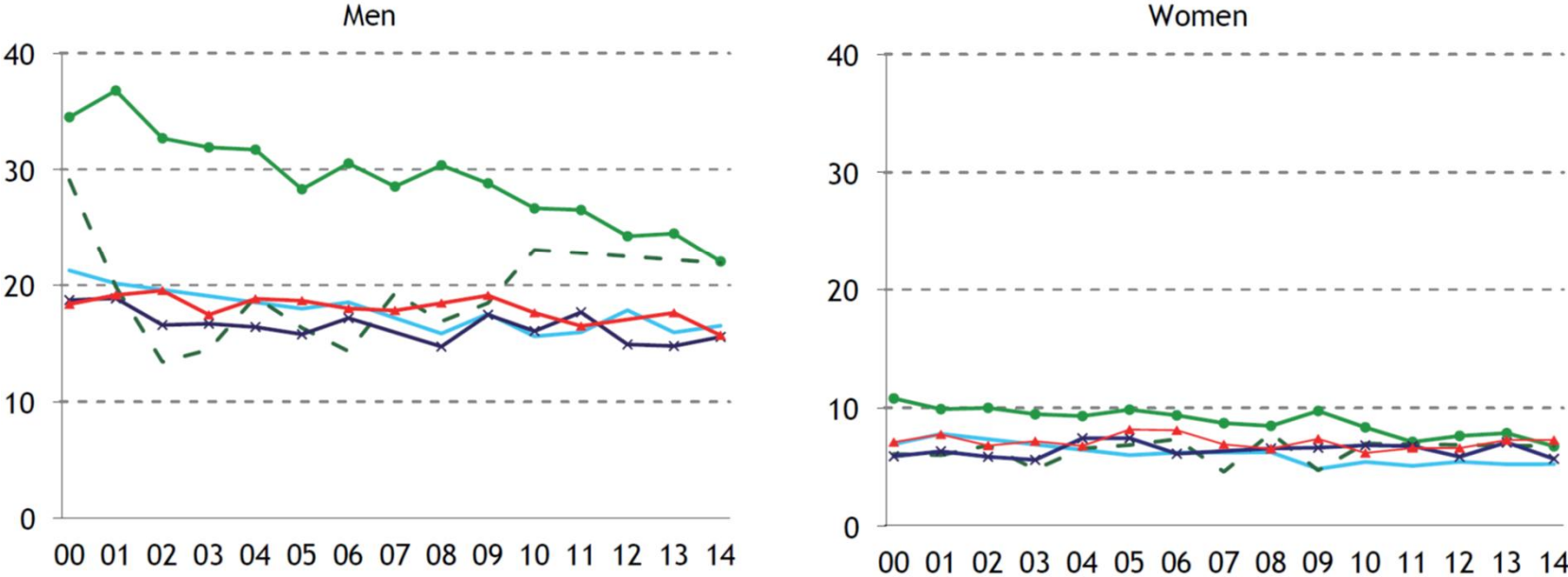
University of Helsinki and Helsinki University Hospital.

Finland



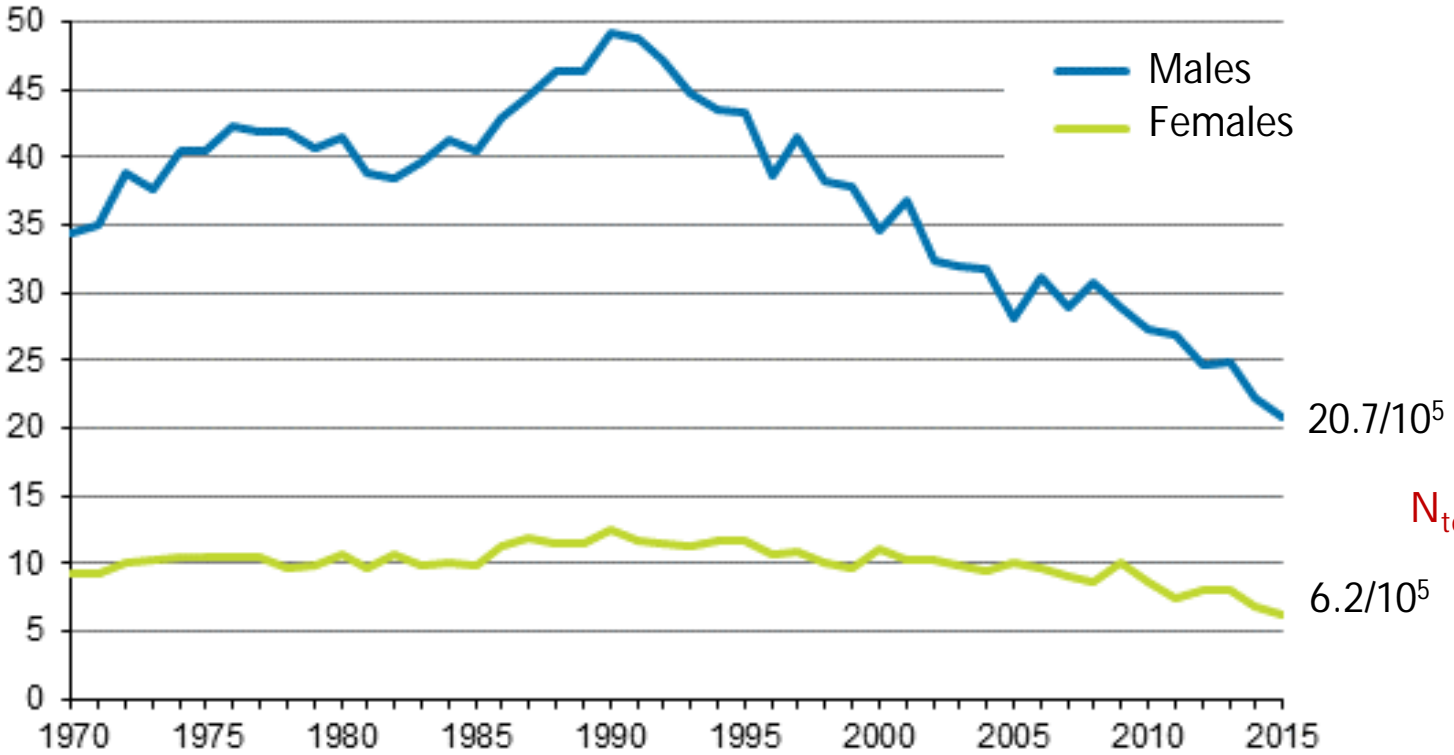
# Suicide rates per 100 000 inhabitants in the Nordic countries 2000-2014

Age-standardized by the Nordic population, 2000  
 Source: the national registers for causes of death



Health Statistics for the Nordic Countries 2016. NOMESCO, 2016.

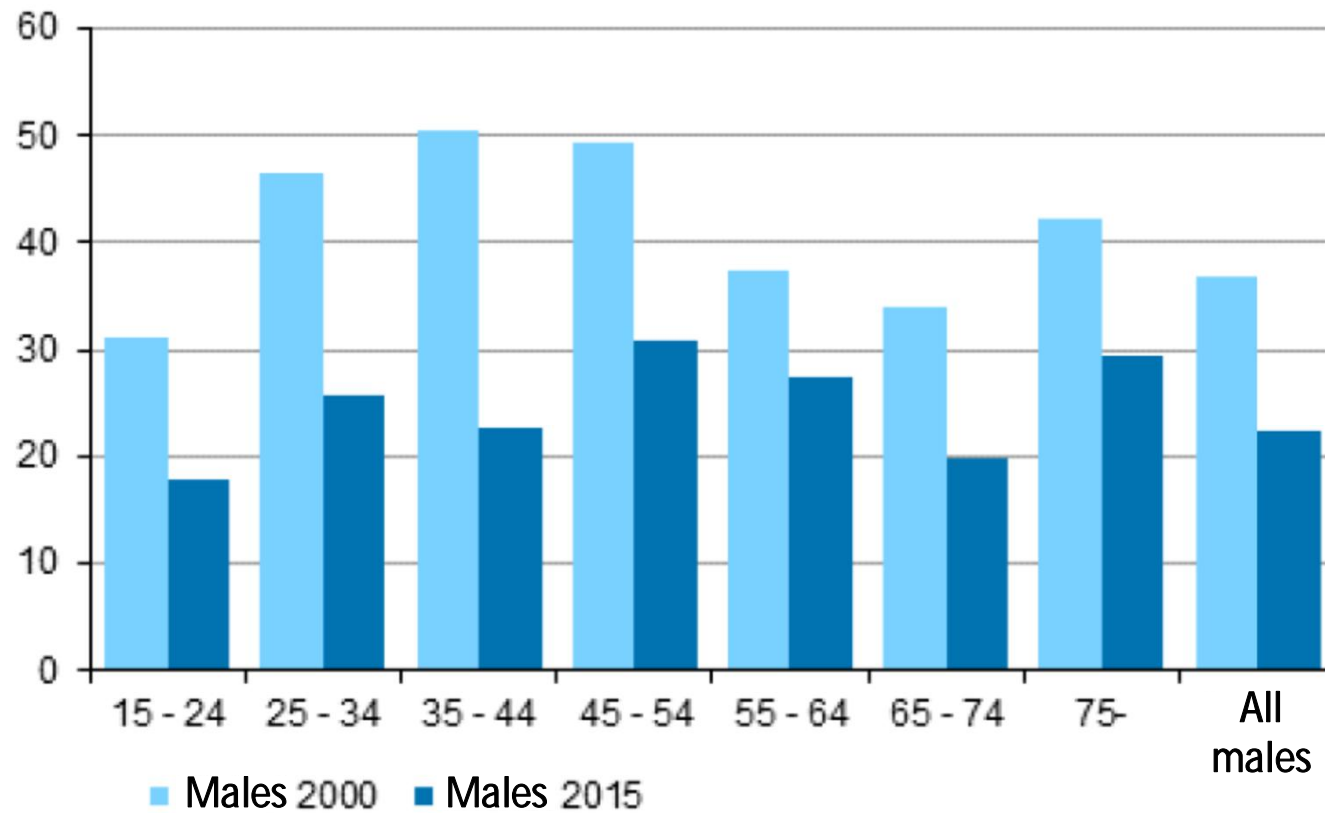
# Suicide Mortality in Finland 1970-2015



$N_{\text{tot}2015}=731$ , mortality  $13.3/10^5$

Statistics Finland, 2016

## Male suicide mortality in Finland in 2000 and 2015 by age group

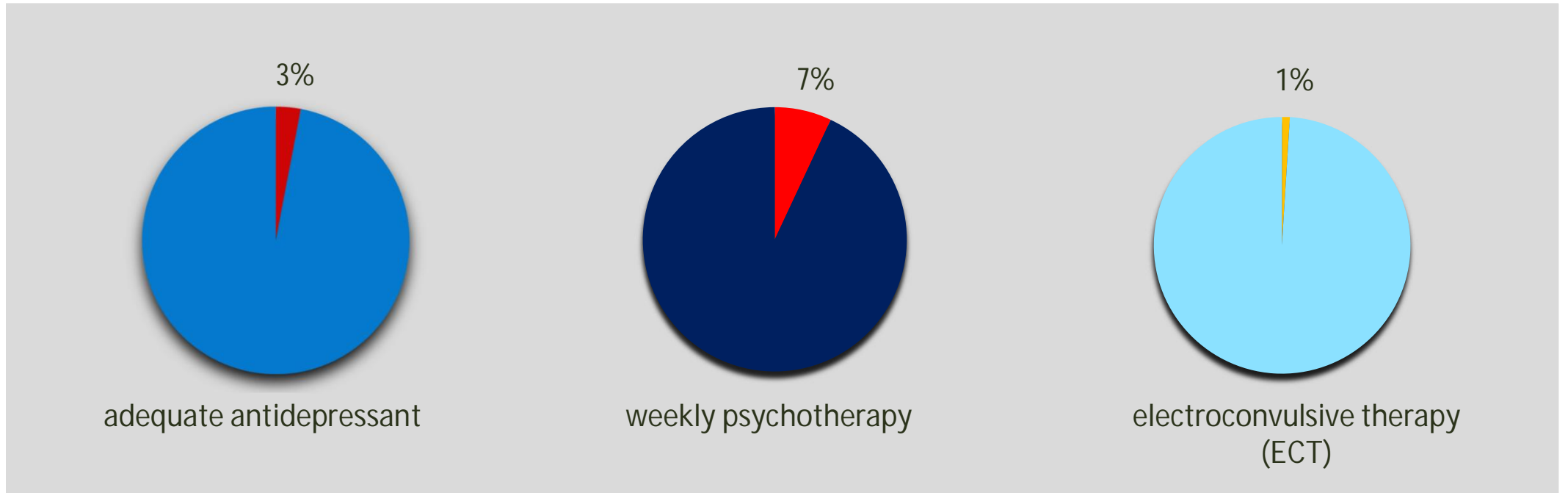


Statistics Finland, 2016

## The National Suicide Prevention Project in Finland 1986-1996

- The Finnish suicide prevention project was the first research-based comprehensive national programme for suicide prevention in the world.
- Three phases:
  - Research phase: "**Suicide in Finland 1987**", a national psychological autopsy study of all suicides (N=1397)
  - Implementation phase: "**Suicide can be prevented**". A target and action strategy for suicide prevention (1993)
  - Evaluation phase: Internal and external, international evaluations (both 1999)
- Generally perceived as successful effort, and led to improved practices in health and social care services.

## Suicide in Finland in 1987: Treatments received for major depression before suicide



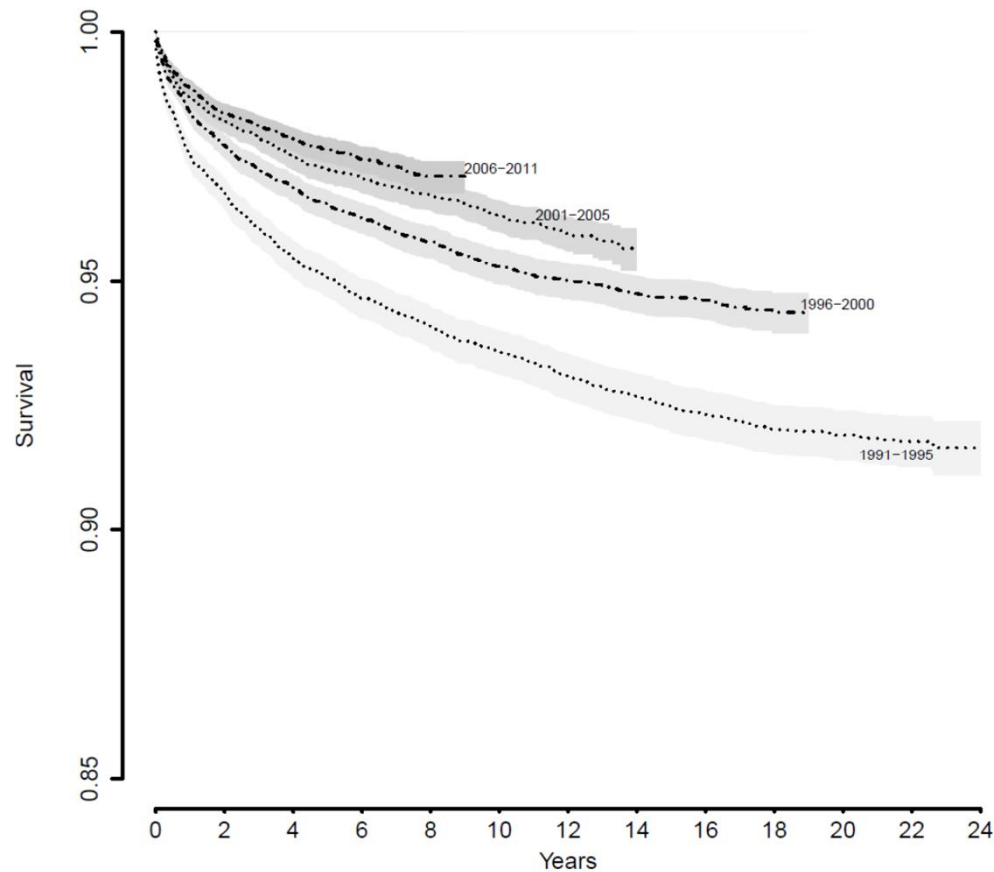
*Isometsä ET et al. Suicide in major depression. Am J Psychiatry 1994;151:530-536.*

## Suicide after psychiatric hospitalization for depression in Finland 1991-2014:

- Register data from:
  - The Finnish Hospital Discharge Register, containing data on all psychiatric hospitalizations in Finland,
  - the Census Register of Statistics Finland providing sociodemographic information, and
  - Statistics Finland's register on causes of death were linked pertaining to years 1991-2014.
- All first psychiatric hospitalizations in 1991 – 2011 with a principal diagnosis of a depressive disorder ( N=56 826) were included. The subjects were followed-up until death by suicide, death for other reasons, or end of follow-up 2014 (maximum 23 years).

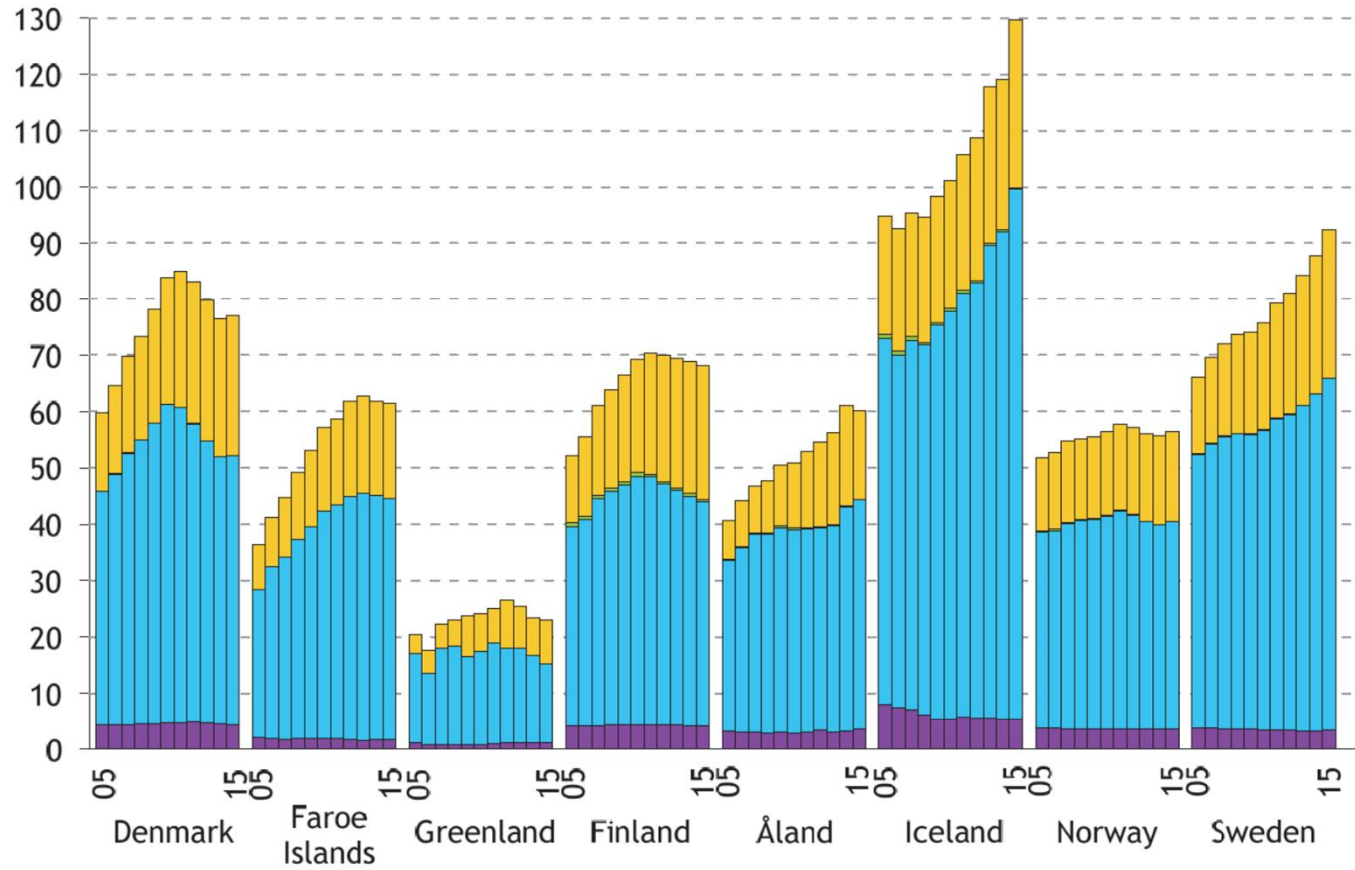


## Temporal trends in suicide mortality among psychiatric inpatients with depression



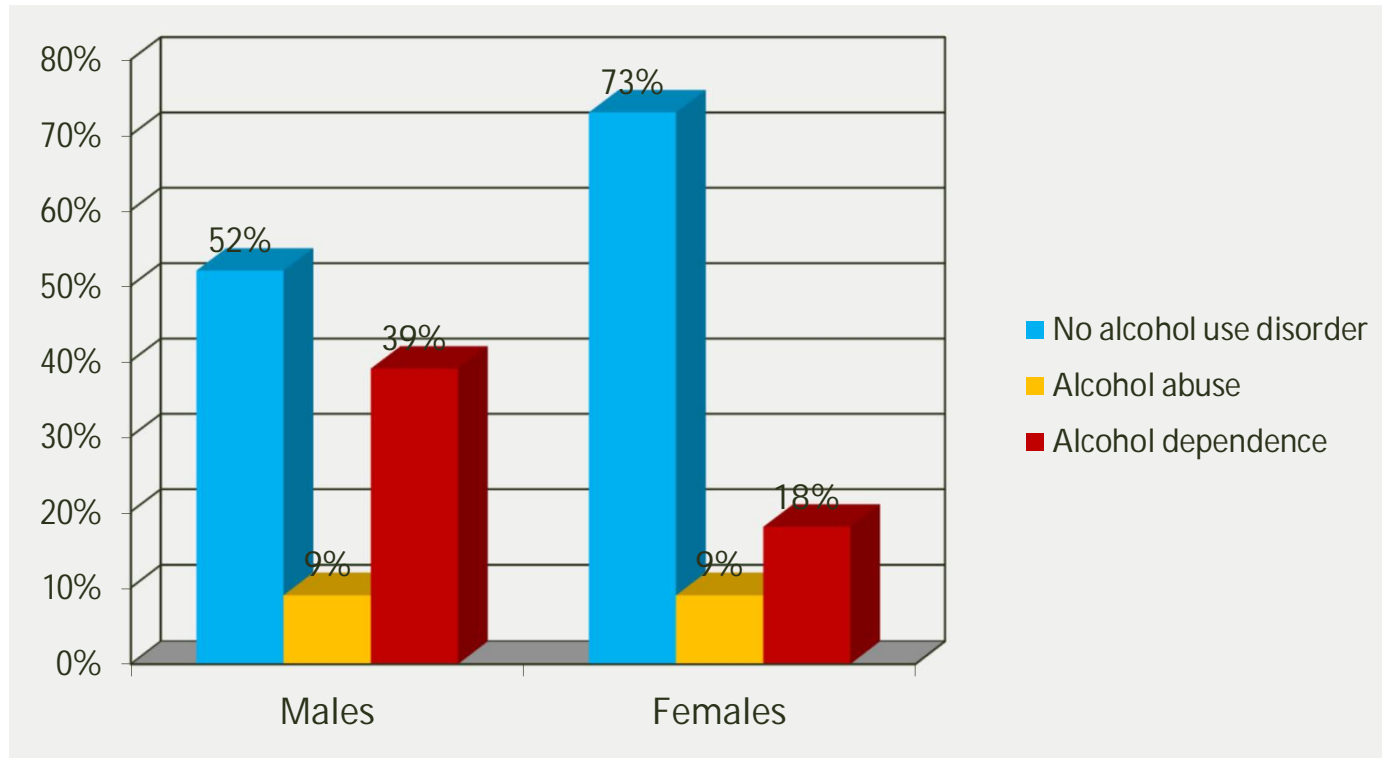
- Suicide risk has markedly declined during the study period 1991-2014.
- Age- and sex-adjusted HR 0.48 for the most recent cohort (reference years 1991-95).
- Greatest change occurred in the 90's.

Sales of antidepressants (ATC-group N06A),  
DDD/1 000 inhabitants/day, 2005-2015



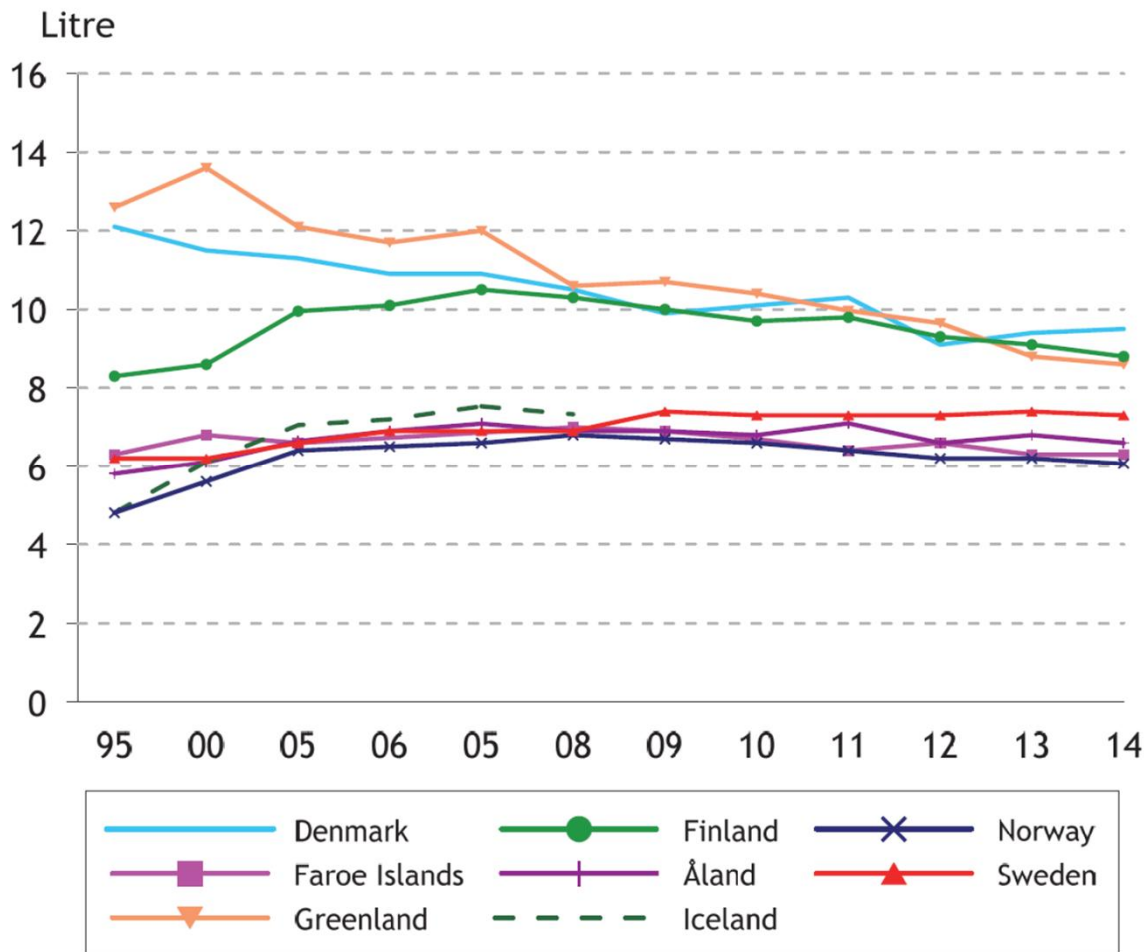
- N06AA Non-selective monoamine reuptake inhibitors
- N06AB Selective serotonin reuptake inhibitors
- N06AG Monoamine oxidase type A inhibitors
- N06AX Other antidepressant

## Alcohol in Finnish suicides (Suicide in Finland in 1987)



- *Alcohol dependence or abuse diagnosable in 43% of all suicides.*
- *Furthermore, about ½ of all suicides under influence of alcohol.*
- *Prevalence of alcohol use disorders or alcohol at time of death much higher among males.*

Sales of alcoholic beverages in litres of 100 per cent pure alcohol per inhabitant aged 15 years and over, 1995-2014



Source: DK, FO, GL, IS, NO: The central statistical bureaus; FI & ÅL: THL; SV: Public Health Agency of Sweden

Health Statistics for the Nordic Countries 2016. NOMESCO, 2016.

# Service provision matters

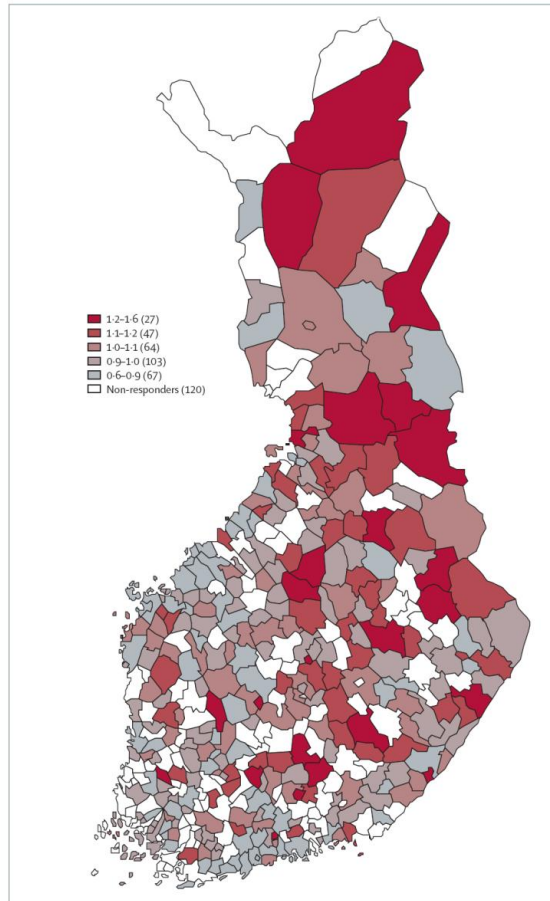


Figure 1: Local age-adjusted and sex-adjusted suicide risk between 2000 and 2004. Numbers are Bayesian estimates of standardised suicide mortality ratios. Number of municipalities is reported in parenthesis.

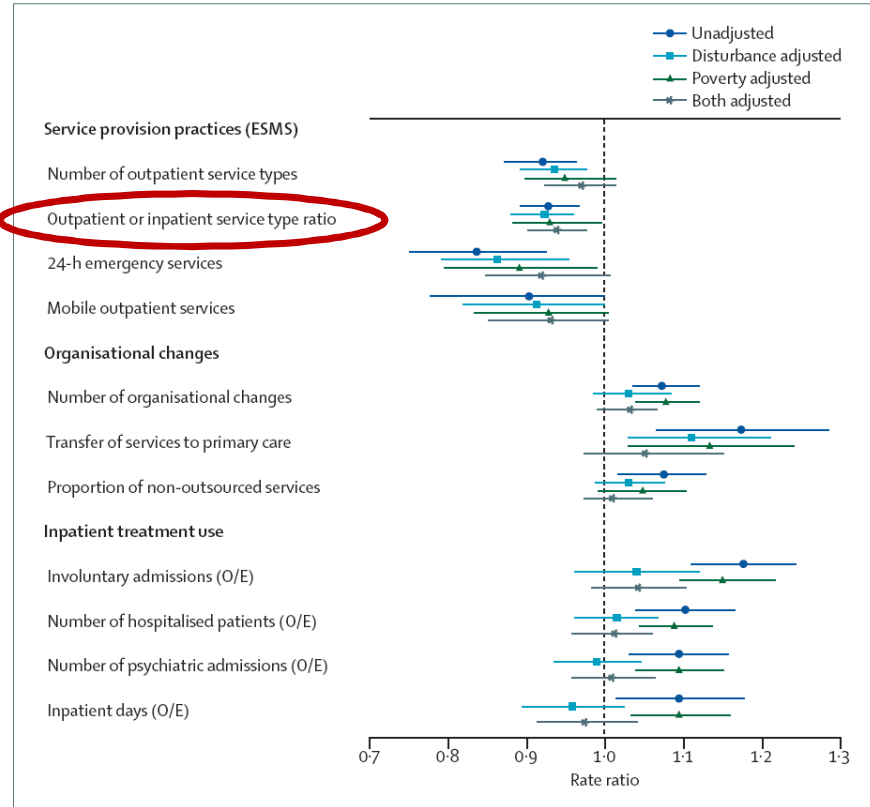


Figure 3: Factors associated with variation in suicide rate at the municipal level. Rate ratio indicates the relative risk of suicide for the 1 SD increase in the value of each variable (except for 24-h emergency services, mobile outpatient services, and transfer of services to primary care, for which rate ratio indicates the change from no to yes). The lines are 95% credible intervals (Bayesian analogues for the confidence intervals). O/E=observed/expected ratio.

Suicide mortality in Finland is about 10% lower in municipalities with weight in psychiatric outpatient rather than inpatient services.

## Current state and challenges for suicide prevention in Finland:

- Downward trend in Finland in suicide mortality ongoing since 1990, but male suicide mortality is still higher than in the other Nordic countries.
- Probably multiple factors underlying the positive trend, these including the national suicide prevention project, and improved treatment of depression.
- No national strategy for suicide prevention in Finland since the late 1990s.
- National Institute for Health and Welfare (THL) responsible for national registries. Active suicide research conducted in universities, but too few intervention studies.
- Finnish Mental Health Association has an important role as a leading NGO, providing crisis hotlines and counselling, and launching the ASSIP intervention for suicide attempters (an ongoing RCT in Helsinki).

*Thank you!*