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# National Quality Register for Psychiatric Neuromodulation Treatments in Finland

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28.5.2023

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# What is a quality register ?

- Quality register is a database that collects information about the treatments carried out and the results of the treatments
- The collected data can be used at the unit level for operational development and nationally in statistical studies
- The most important tasks of national quality registers are:
  - Improving quality
  - National investigation of treatment practices and amounts
  - Systematic statistics of treatment results

# Why do we need a quality registers?

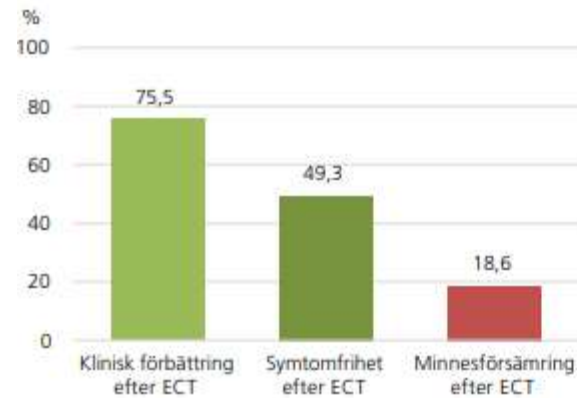
- Neuromodulation treatments are provided in every Nordic country
- Practices vary:
  - Electrode placement and anesthetics used in ECT treatments
  - Number of treatment in a series
  - Maintenance treatments
  - Patient selection
  - In rTMS treatment, number of pulses, intensities, treatment targets, dx., sin. or bilateral?, 10Hz or iTBS?
- Depending on the location, patients receive treatment in different ways, and it is not known which practice is the “best practice”
- Monitoring of treatment results and patient assessment practices vary
  - Treatment results are not comparable at the national, let alone the Nordic level
- Quality registers can be used to determine the cost-effectiveness of treatments at the national and unit level
- The amount of data that can be obtained and utilized from quality registers is enormous
- **To make ECT more transparent and less stigmatized**

# The effects of Swedish quality register

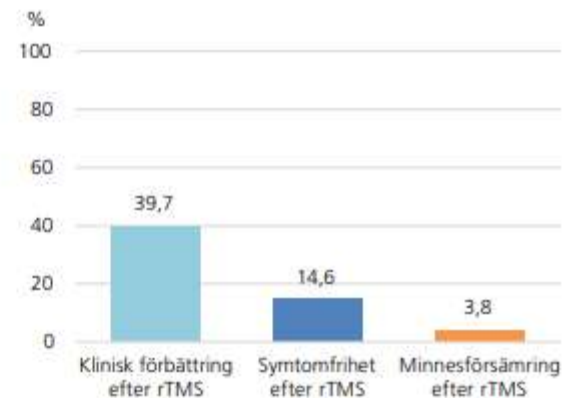
- After 2015, over 40 peer-reviewed scientific publications based on data obtained from the quality register
- ECT has become more transparent
- The reputation of ECT treatment has probably increased
- Everyone has the opportunity to see how treatments are carried out around Sweden and what kind of treatment effects have been achieved

[Kvalitetsregister ECT \(registercentrum.se\)](http://registercentrum.se)

Figur 1. Resultat av ECT

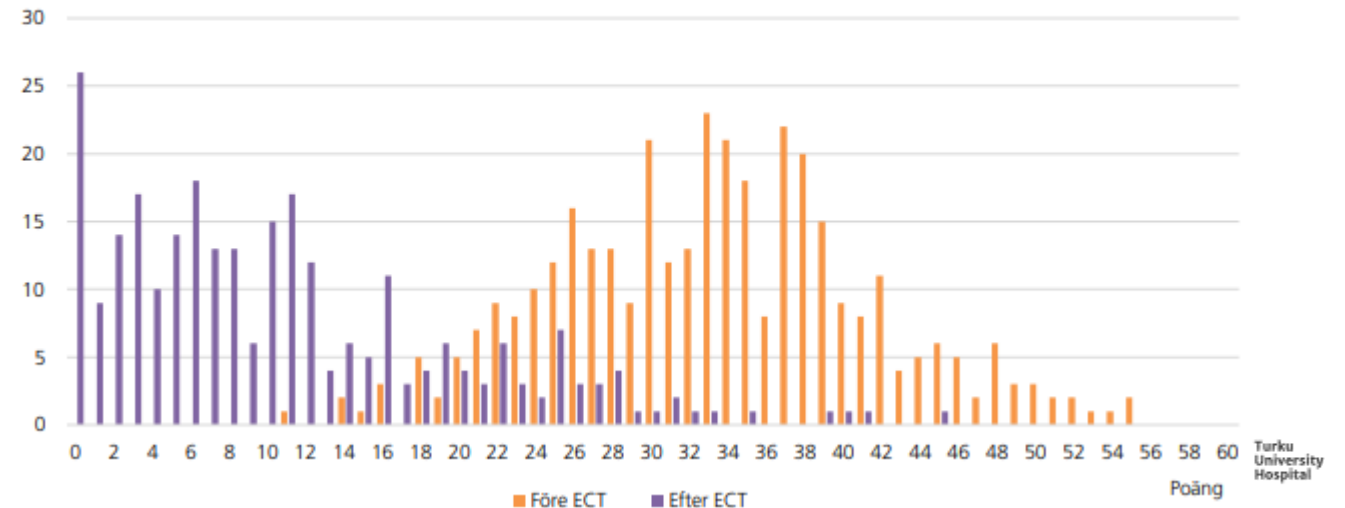


Figur 2. Resultat av rTMS



Figur 16a. Bedömning med MADRS före och efter ECT

Antal behandlingsserier



# National quality register in Finland

- Finnish national quality register for psychiatric neuromodulation treatments was founded in 1.2.2019.
- BCB Medical oy was selected as the manufacturer for the register since it already had made letters of intent with all Finnish hospitals and had made the quality register for psychotherapies which was already on use in Finland
- A working group consisting of the following persons was selected to build the quality register:
  - Tero Taiminen (chairman)
  - Kaija Järventausta
  - Niko Seppälä
  - Tuukka Raij
  - Lauri Virtanen (project coordinator)

# The goals for designing the quality register

- Create an easy-to-use electronic database
- As little as possible more work for nurses or doctors
- Integration possibilities
- Implementation of nationally consistent rating scales for psychiatric disorders
- Increase national statistics and comparability
- Improving patient safety and quality of care.

# Rating scales

- Our aim was that one self-rating scale, and one interview scale were selected for each indication (excluding psychotic illnesses)
- In the spring of 2019, a survey was made of the rating scales in use in Finland
- The quality register working group compared the meters in use with those used in Sweden, and then the licenses of the meters were clarified
- Efforts were made to choose the shortest possible and high-quality meters for use

Indication	Rating scale	Self-rating	Interview
Depression (Uni and bipolar)	<b>BDI-21</b> <b>MÅDRS</b>	X	X
Schizophrenia	<b>BPRS+3</b>		X
Obsessive-compulsive disorder	<b>OCI-R</b> <b>Y-BOCS</b>	X	X
Anxiety	<b>OASIS</b> <b>HAM-A</b>	X	X
Mania	<b>YMRS</b>		X
Catatonia	<b>BFCRS</b>		X
Mixed bipolar disorder	<b>BDI-21</b> <b>MÅDRS</b> <b>YMRS</b>	X	X X
Increased risk of suicide	<b>BDI-21 Q9</b> <b>MÅDRS Q10</b> C-SSRS (optional)	X	X X
Everyone	<b>15D</b> <b>CPRS</b> memory question <b>SOFAS</b> GAF / GAS (optional)	X	X X X



# How does the Finnish quality register work

- The quality register functions as part of the patient database
- It uses integrations to gather information from patient information system
- Treatment information written in the register can be used to create treatment report texts
- The quality register is joined by unit, and each unit can only see the patients of its own unit
- The data used in the quality register can be analyzed at the unit level and various reports can be exported from the quality register
- Data can also be analyzed at the register level. In this case, the patients' personal information is encrypted.

TESTI, TESTI  
060606-0606

Potilaan tiedot

Tutkimuspotilas

Mittarit

Lisää hoitosarja

Hoitosarja rTMS

Hoitosarja  
02.05.2023 - ECT + - ⚙ -

Hoitosarjan tiedot

Seurantatiedot

TOIMENPITEET

16.08.2022 ECT

16.08.2022 Toimenpiteen tiedot

Esitiedot

ECT

Seurantatiedot

Mittarit

Toimenpidekertomus

Loppulausunto

Tallentanut Lauri Virtanen, viimeksi muokattu 19. toukokuuta 2023 kello 12:44

Elektrodiasettelu **KANSALLINEN**

Yksipuolinen

Yksipuolinen **KANSALLINEN** **KERTOMUS**

Oikea unilateraalinen (d'Elia)

Käytetty anesteetti **KANSALLINEN** **KERTOMUS**

x Metoheksitaali

Kouristusta pidentävä esilääkitys tai rTMS

Kouristuksen kesto EEG:ssä **KANSALLINEN** **KERTOMUS** ?

43 s

 Kouristuksen kesto EEG:ssä epäselvä

Motorisen kouristuksen kesto (joko visuaalisesti tai EMG:llä mitattuna)

**KANSALLINEN** **KERTOMUS**

27 s

 Uuteen stimulaatioon johtanut riittämättömän lyhyt kouristus ?

Kuvaa liian lyhyt kouristus kohdassa Hoitokertaan liittyviä lisätietoja.

Hoitoa vaativat komplikaatiot **KERTOMUS**Onko käytetty tarroja/päitsimiä? **KANSALLINEN** Käytetty tarroja Käytetty päitsimiäKäytetty laite **KANSALLINEN**

Thymatron IV

Energiaprosentti **KANSALLINEN** **KERTOMUS**

100 %

Käytetty ohjelma **KANSALLINEN** **KERTOMUS**

Low 0.5

Varaus **KANSALLINEN** **KERTOMUS**

504,6 mC

Virta ampeereina **KANSALLINEN**

0,9 A

Virta milliampeereina **KANSALLINEN**

900 mA

Stimulaation kesto **KANSALLINEN**

7,99 s

Frekvenssi **KANSALLINEN**

70 Hz

Pulssileveys **KANSALLINEN** **KERTOMUS**

0,5 ms

Hoitokertaan liittyviä lisätietoja **KERTOMUS**

Kertomusta ei ole tallennettu.

#### Nykytila

#### Tapahtumadiagnoosit

F32.3 Vaikea-asteinen, psykoottinen masennustila

#### Toteutuneet toimenpiteet

IFB01 Aivojen sähköhoito (Electroconvulsive Therapy, ECT)  
WX402 Yleisanestesia

Toimenpiteen toteuttaja: Lauri Virtanen

#### Hoitotoimet

1. ECT-sarjahoito toteutettu oikeanpuoleisella unilateraalaisella elektrodiasettelulla, ohjelmalla 'Low 0.5', energialla 100 %, anesteettina metohexitaali.

Kouristuksen kesto EMG:ssä 27 s ja EEG:ssä 43 s.

#### Suunnitelma

Seuraavalla kerralla sama energia.

#### Current status

#### Diagnosis

F32.3 Major depressive disorder, single episode, severe with psychotic features

#### Implemented treatments

IFB01 Electroconvulsive Therapy, ECT

WX402 General anesthesia

Practitioner: Lauri Virtanen

#### Treatment measures

1st ECT-treatment performed with right unilateral electrode placement, program 'Low 0.5', energy 100%, anesthetic methohexital.

Seizure duration in EMG 27 s and in EEG 43 s.

#### Treatment plan

The same energy at the next treatment.

# Example of Medical case summary

## Tapahtumadiagnoosit

F33.2 Toistuvan masennuksen vaikea masennusjakso ilman psykoottisia oireita

## Toteutuneet toimenpiteet

IFB01 Aivojen sähköhoito (Electroconvulsive Therapy, ECT)

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Toimenpiteen toteuttaja: Lauri Virtanen

## Loppuarvio (epikriisi)

Potilas on ollut ECT-sarjahoidossa. Potilas on aloittanut hoidon 05.06.2020.

Hoidon tavoitteena oli masennusoireiden lievittäminen.

Hoitoprotokolla: Viimeisellä hoitokerralla hoito toteutettu oikeanpuoleisella unilateraalaisella elektrodiasettelulla, ohjelmalla 'Low 0.5', energialla 100 %, anesteettina metohexitaali.

Potilas on saanut tähän mennessä 8 hoitoa. Viimeinen hoito 18.11.2021.

## Hoidon tulokset

Hoidon vastetta seurattu seuraavilla kyselylomakkeilla:

BDI-21: 63/63 (01.09.2020), 24/63 (12.04.2021)

Muutos alkutilanteesta: -61.9 % (01.09.2020 - 12.04.2021)

MÅDRS: 33/60 (12.04.2021), 11/60 (18.11.2021)

Muutos alkutilanteesta: -66.7 % (12.04.2021 - 18.11.2021)

SOFAS: 78/100 (10.11.2021)

## Suunnitelma

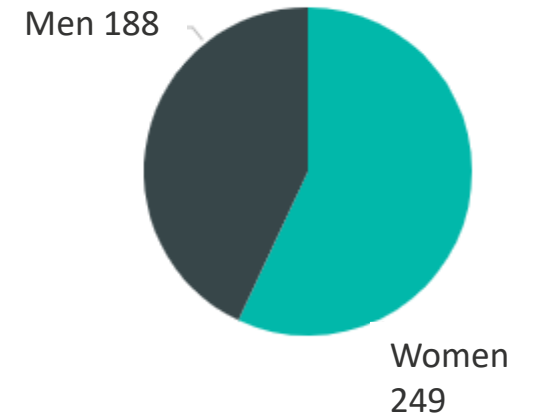
ECT-hoito päättyy. Potilas siirtyy asteittain harvenevaan ylläpitohoitoon

# Reporting tool

Age



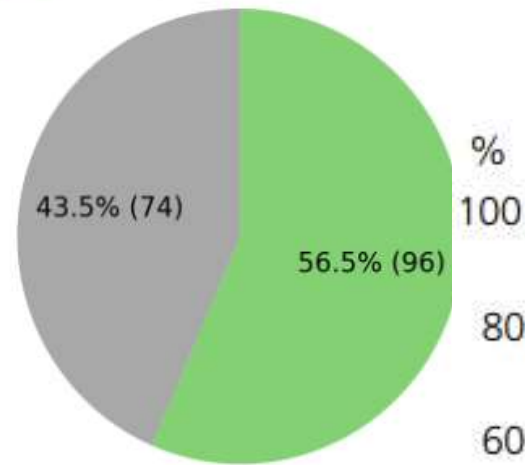
Gender



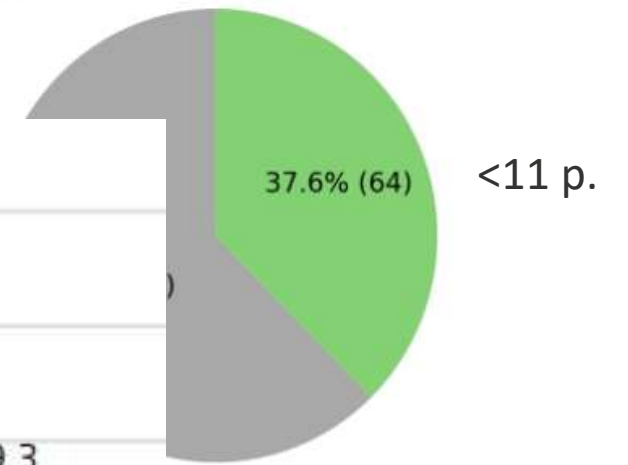
# Treatment results

MÅDRS

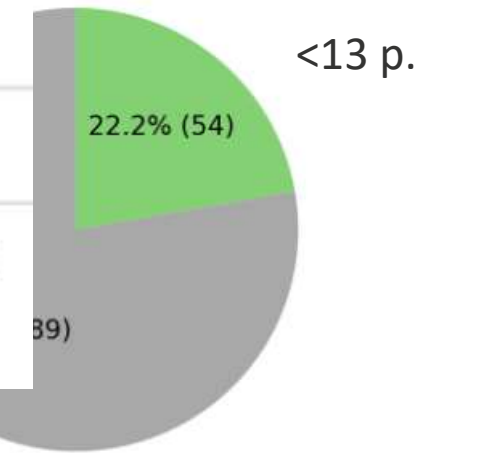
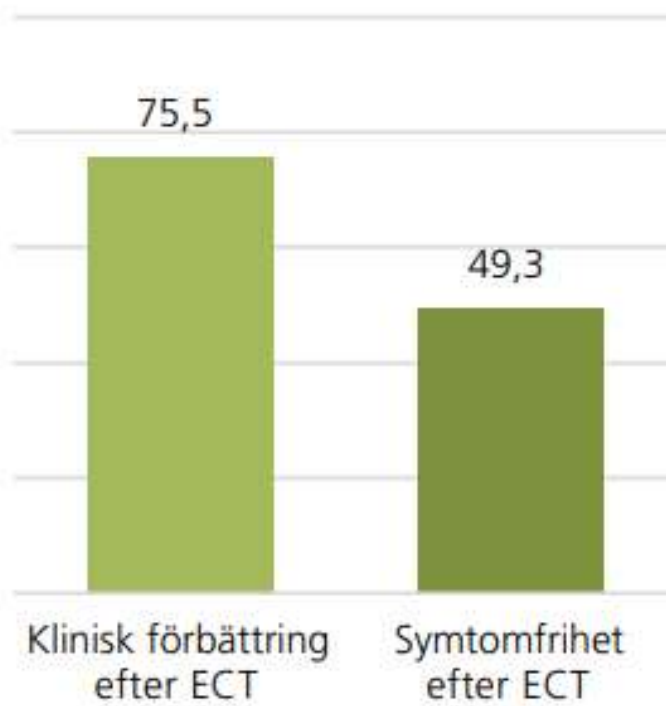
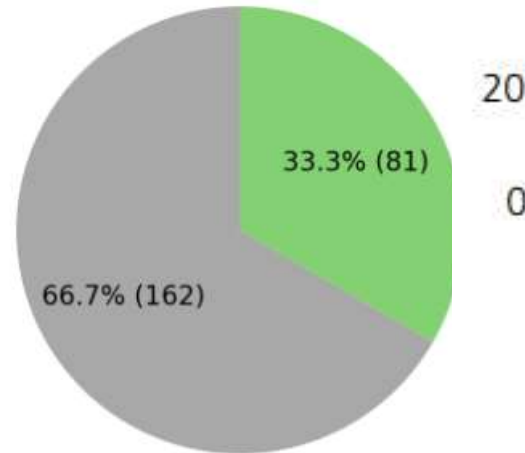
Clinical response to ECT



Symptom free after ECT



BDI



# Where are we at?

- The quality register is currently only used in Turku University Hospital (Tyks) for ECT treatments
- Data has been gathered since early 2020
- Tyks will add rTMS treatments to the quality register possibly in Autumn 2023
- Helsinki University Hospital (HUS) and Oulu University Hospital (OYS) are planning to start using the register later this year
- BCB-medical has made procurement proposals for several hospital districts



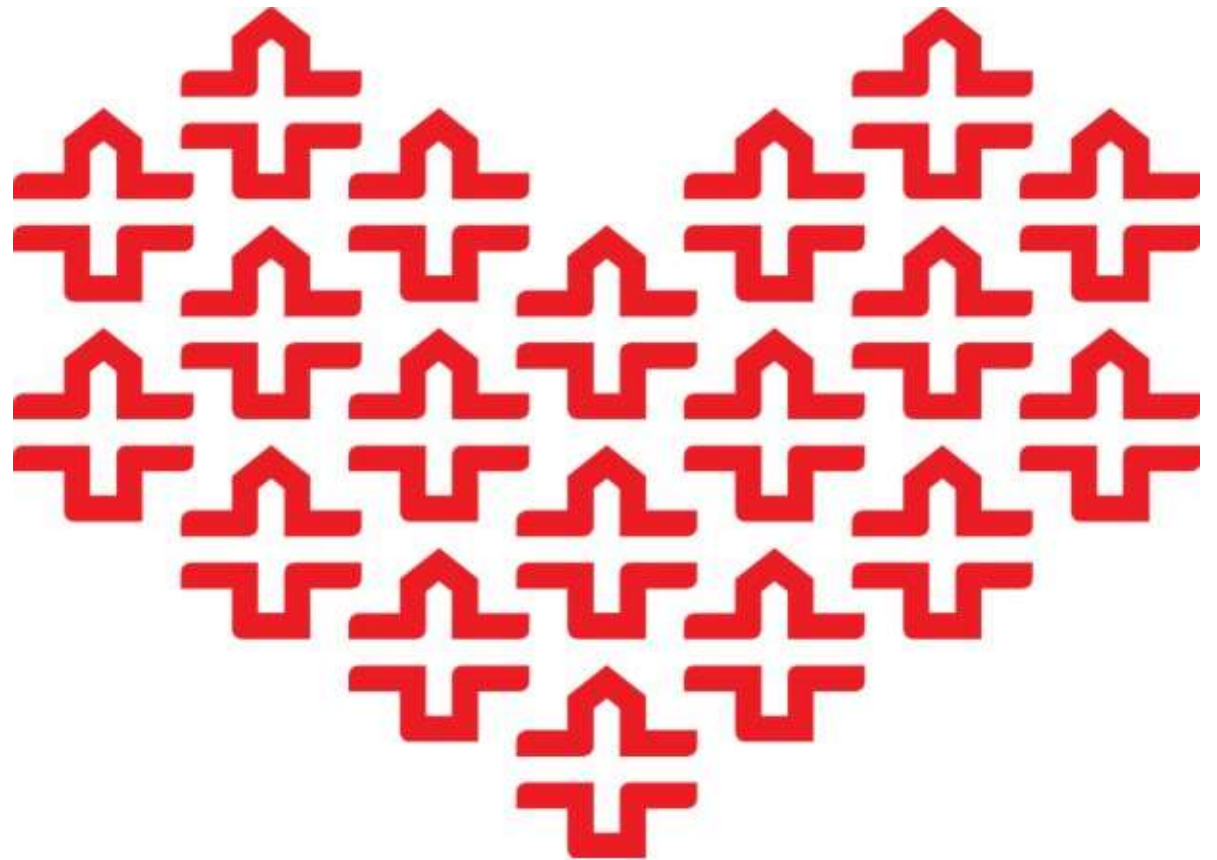
# What's slowing us down?

- The pandemic
- Changes to the patient information systems (Apotti)
- The social and healthcare service reform
- No direct funding from the government.
  - Several hospitals have declined to start using the register due to it being too costly for them.
- ECT has too good reputation in Finland
  - The need for quality register isn't as high as it was for Sweden
- Finns tend to stay at their comfort zone if something isn't mandatory



**Here's my  
comfort zone**

# Thank you!



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