



NordDRG - Developing grouping logic for psychiatric care

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Abstract of the day – the four crucial questions

1. What's all the hassle about..?
2. How do we answer to the call?
3. What's the road to success and outcome?
4. What happens next?

FINLAND – “The happiest country in the world”



Situated in Northern Europe

Population: 5.5 million

Capital: Helsinki

Around 75% of Finland's surface is covered with forests

About 188 000 lakes

WHOOPER SWAN
The national bird of Finland



NordDRG system

DRG grouping logic based on ICD-10 and NCSP

Owned by five Nordic countries,
maintained by Nordic Casemix Centre, NCC

Updated annually

Used in 20 hospital districts in Finland

What's all the hassle about..?

Why was this project needed?

Background

- ✓ Psychiatry, as a field of medicine, is complex
 - ✓ Psychiatric illnesses, their symptoms as well as diagnostic and treatment options are often multidimensional
- ✓ NordDRG grouper has not been able to produce information on the level the field of psychiatry would need
 - ✓ Grouping variables used by the grouper are mainly limited to diagnoses and some other patient characteristics, which are not sufficient to create clinically and economically meaningful groups

How do we answer to the call?

From inch to action

Development project

- ✓ The aim of the project is to update the NordDRG grouping rules for psychiatry the way it will produce information the field needs
 - ✓ Clinical and economic view
- ✓ Development group
 - ✓ Members from FCG, NCC, Finnish institute of national health and welfare and several Finnish hospital districts
 - ✓ Represent both clinical and economic expertise
 - ✓ First meeting 1/2021
 - ✓ Meetings on Teams
- ✓ For analysis the data of five university hospitals of Finland was used
 - ✓ Iterative process of developing and testing
 - ✓ Using test-grouper developed for the project the economical effects of the changes made as well as their effects on statistical variables were analysed
- ✓ Splitting criteria:
 - ✓ $\geq 20\%$ difference in costs
 - ✓ $N \geq 50$ per group

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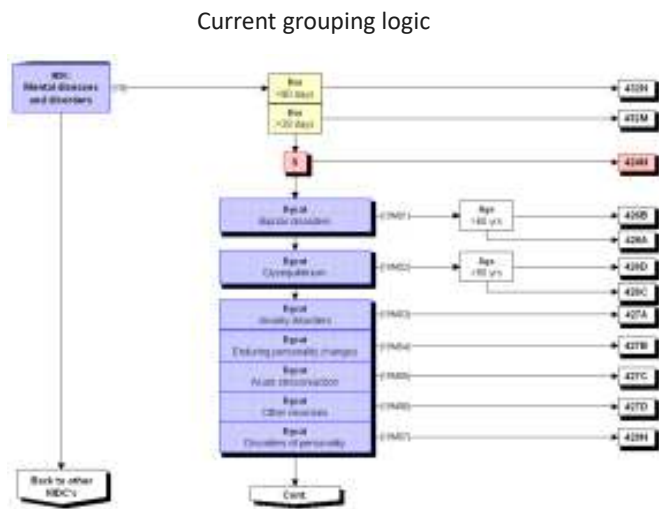
Road to success and outcome

A brief overview of what's been done

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Diagnosis categories



- ✓ NordDRG grouping starts with the patient's main diagnosis for which a certain MDC (Major diagnostic category) is determined.
 - ✓ The MDC for psychiatry is 19 *Mental diseases and disorders*
- ✓ A diagnosis category is a group of similar diagnoses under a certain MDC (e.g. *Anxiety disorders*).
 - ✓ In current grouper there are 19 diagnosis categories in MDC 19
- ✓ Update of categories in MDC19
 - ✓ The updated grouping logic has 29 different diagnosis categories

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Example (inpatients): Diagnosis categories

✓ Before

19M20 Alcohol and drug abuse

✓ After

19M20 Alcohol and drug abuse

19M53 Alcohol addiction

19M49 Opiate addiction

19M46 Other addiction

DgCat*	Mc	Cv	N
Drug and alcohol abuse	2 382	98%	2 990

DgCat	Mc	Cv	N
Drug and alcohol abuse	1 719	98%	1 284
Alcohol addiction	2 183	95%	1 186
Opiate addiction	5 169	57%	353
Other addiction	3 012	85%	167

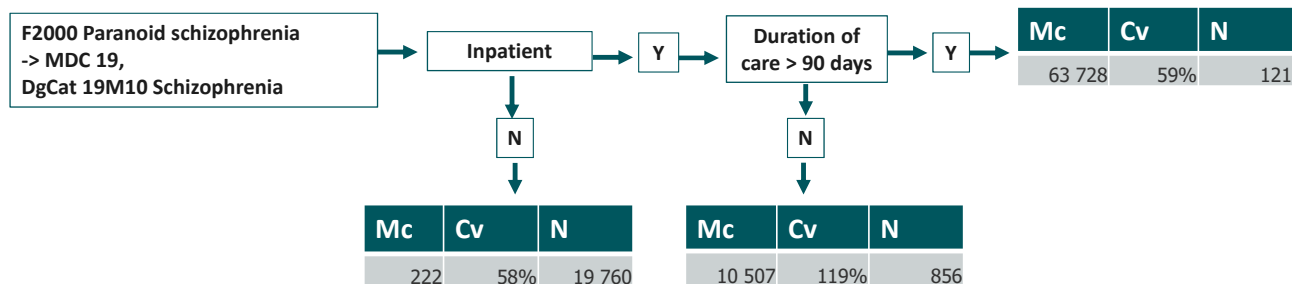
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*DgCat = Diagnosis category, Mc = Mean Cost, Cv = Coefficient of variation, N = Number of cases

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Duration of care

- ✓ The updated grouping logic is based on inpatient / outpatient (duration of care ≥ 2 days / < 2 days) division
- ✓ For inpatients the long-term patients (duration of care > 90 days) are grouped into a separate DRG

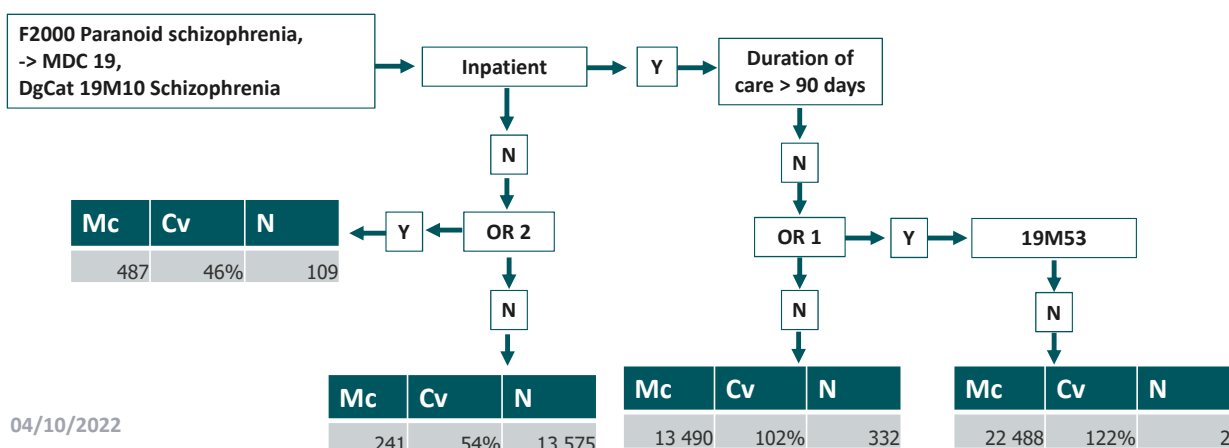


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Non-psychiatric (OR-) procedures

- ✓ Inpatients: OR1 (performed in an operating room environment)
 - ✓ OR1 Procedures related to gender-identity (diagnosis category 19M53 *Gender-identity related contacts*)
 - ✓ Other Cases
- ✓ Outpatients: OR2 (significant outpatient procedure, e.g. endoscopy)



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Psychiatric procedures

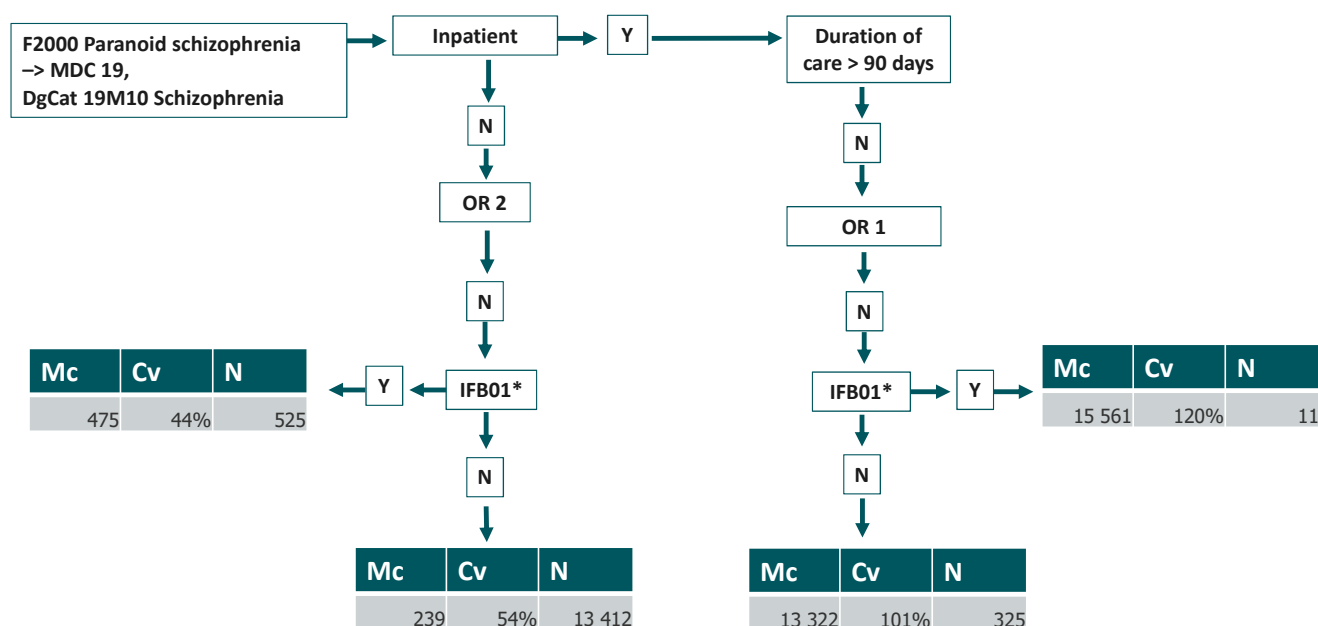
- ✓ Psychiatric procedure codes were introduced in Finland in 2018
 - ✓ In current grouper the psychiatric procedures don't affect the grouping
 - ✓ By analysing the data we recognized the procedures that are either clinically or economically meaningful:
 - ✓ Neuromodulation treatments (IFB01 Electroconvulsive therapy ECT, IFB02 Transcranial magnetic stimulation TMS, IFB03 Deep brain stimulation DBS etc.)
 - ✓ for inpatients and outpatients
 - ✓ IFA37 Ketamine therapy
 - ✓ for outpatients
- > Cases involving one of these procedures will be grouped into a separate DRG regardless of the diagnosis in question

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13

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Example: Psychiatric procedures



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* IFB01 = Electroconvulsive therapy ECT

14

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Complicated cases

- ✓ Some secondary diagnoses may complicate the case
 - ✓ These diagnoses have so called *cc property* (maintained list of over 700 diagnoses)
 - ✓ Complicated cases need more resource, including economic resource
- ✓ By analysing the data, we recognized the cases and diagnoses that were affected by complicating diagnoses
 - ✓ Diagnoses that met the splitting criteria belonged to the following diagnosis categories:
 - ✓ 19M40 Alcohol addiction
 - ✓ 19M52 Abuse psychosis
 - ✓ 19M20 Alcohol and drug abuse
 - ✓ Complicated cases (cc) are grouped to one DRG and not complicated (w/o cc) cases to another DRG.

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Example: Complicated cases

- ✓ Inpatients, duration of care < 91 days, not OR1, not neuromodulation treatment

DgCat	Mc	Cv	N
Alcohol addiction (all)	4 653	128%	444
Alcohol addiction, non-cc	3 741	142%	255
Alcohol addiction, cc	5 884	111 %	189

- ✓ The cost difference between non-cc and cc is 57 %
- ✓ The amount of cases in both groups is sufficient enough
-> meeting the splitting criteria

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Age

- ✓ Patient's age may affect the care of a patient as well as the costs involved
- ✓ In most of these cases the care of younger patients is much more expensive
- ✓ The division into two different groups will be made for following diagnosis categories
 - ✓ <18 / 18 or older
 - ✓ 19M03 Anxiety disorder
 - ✓ 19M45 Depression
 - ✓ 19M51 Psychosis
 - ✓ <25 / 25 or older
 - ✓ 19M48 Neurocognitive disorder
- ✓ Different age groups are grouped to different DRGs

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Example: Age

- ✓ Inpatients, duration of care < 91 days, not OR1, not neuromodulation treatment

DgCat	Mc	Cv	N
Anxiety disorder (all)	7 260	143%	608
Anxiety disorder, 18 or older	6 384	153%	381
Anxiety disorder, < 18	7 940	132%	196

- ✓ The cost difference between 18 or older and < 18 is 24 %
- ✓ The amount of cases in both new groups is sufficient enough
-> meeting the splitting criteria

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What happens next?

A look into the future

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19

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The next steps

- ✓ Version of the updated grouping logic is complete and being tested
 - ✓ Logic includes 67 different DRGs (vs. 33 in the old grouper)
- ✓ The project and its outcomes will be presented in the NordDRG Expert group meeting in spring 2023
- ✓ Implementation in Finnish 2024 grouper version
- ✓ Ongoing development on basis of feedback from the users

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20

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