A new case-mix based payment system for the psychiatric day care sector in Switzerland:
Proposed methods for developing the tariff structure

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1 About SwissDRG AG

Revision of the Health Care Insurance Act (KVG) in 2007:

Article 47:

- *Flat rates for all inpatient treatments*
- *Service-related*
- *Uniform throughout Switzerland*
- Tariff partners and cantons (regions) mandate an organisation → SwissDRG AG

Acute care: January 1st 2012 implementation of SwissDRG 1.0

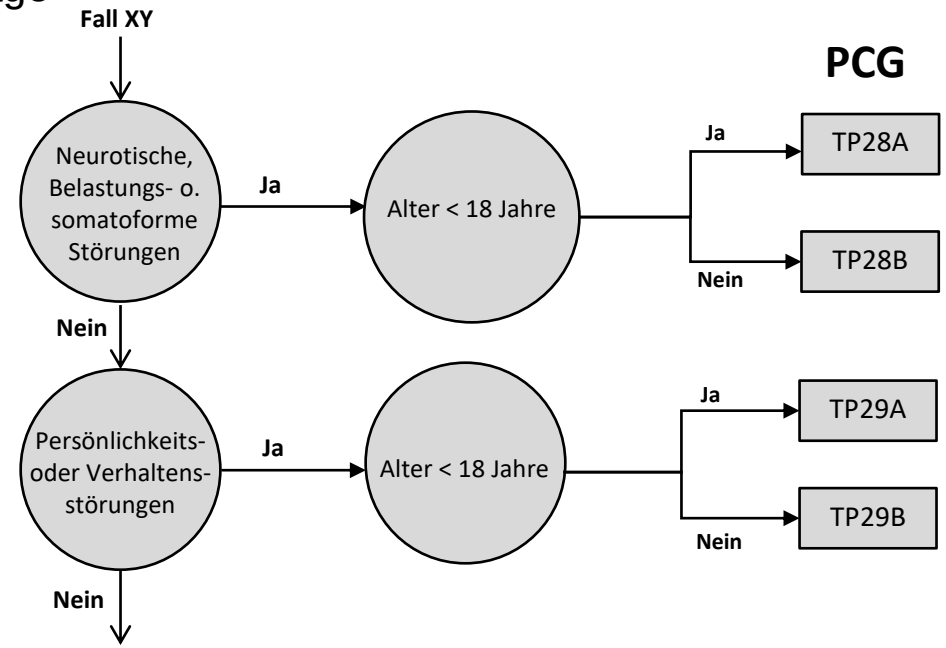
Psychiatry: January 1st 2018 implementation of TARPSY 1.0

Rehabilitation: January 1st 2022 implementation of ST Reha 1.0

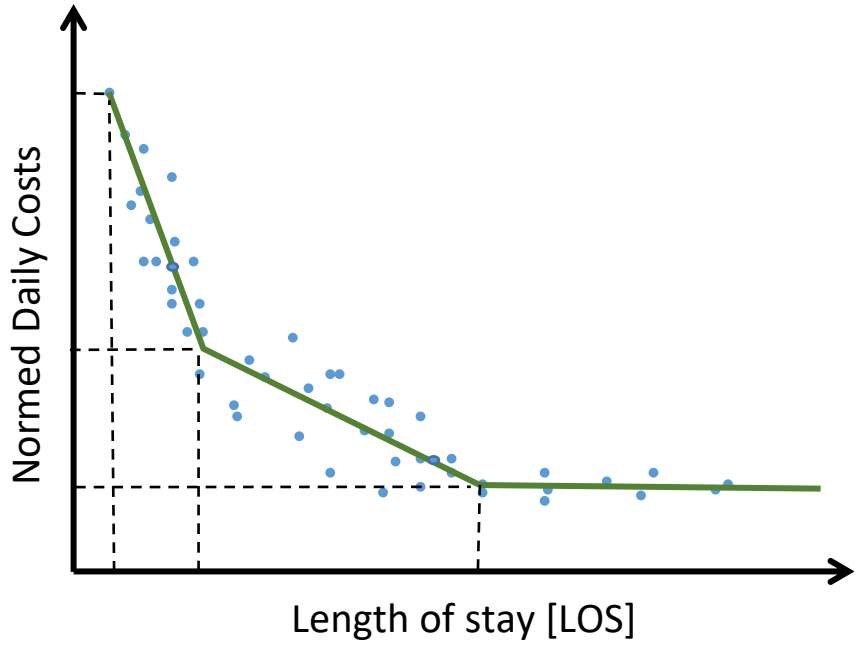
2 About TARPSY

- TARPSY is the national tariff structure for **inpatient** psychiatric hospitalization
- Hospitals mandated by the state/cantons are required to bill according to TARPSY

TARPSY is comprised of *Psychiatric Cost Groups (PCG)* that are based on patient data such as diagnoses, medical services and age



For each PCG dimensionless daily cost weights (CW) are determined, which are then part of remuneration per patient



3 Inpatient vs outpatient

- TARPSY is for the inpatient sector
- The opposite is the outpatient sector
- But: Day care (partial inpatient) treatments are increasing

As of right now, day care treatments in Switzerland are organised individually between cantons and hospitals and vary across Switzerland

Can the system of daily flat rates be extended from the fully inpatient sector to the day care sector? This extension would have to be:

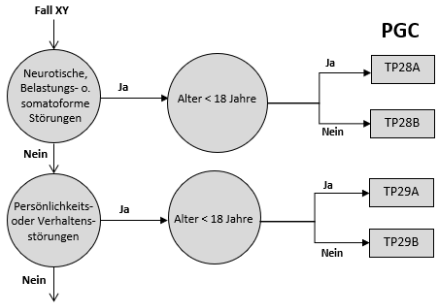
- Easy to understand
- Easy to implement
- Uniform across Switzerland

→ This would reduce false incentives (change from flat rates to individual rates)

How can such a system be built?

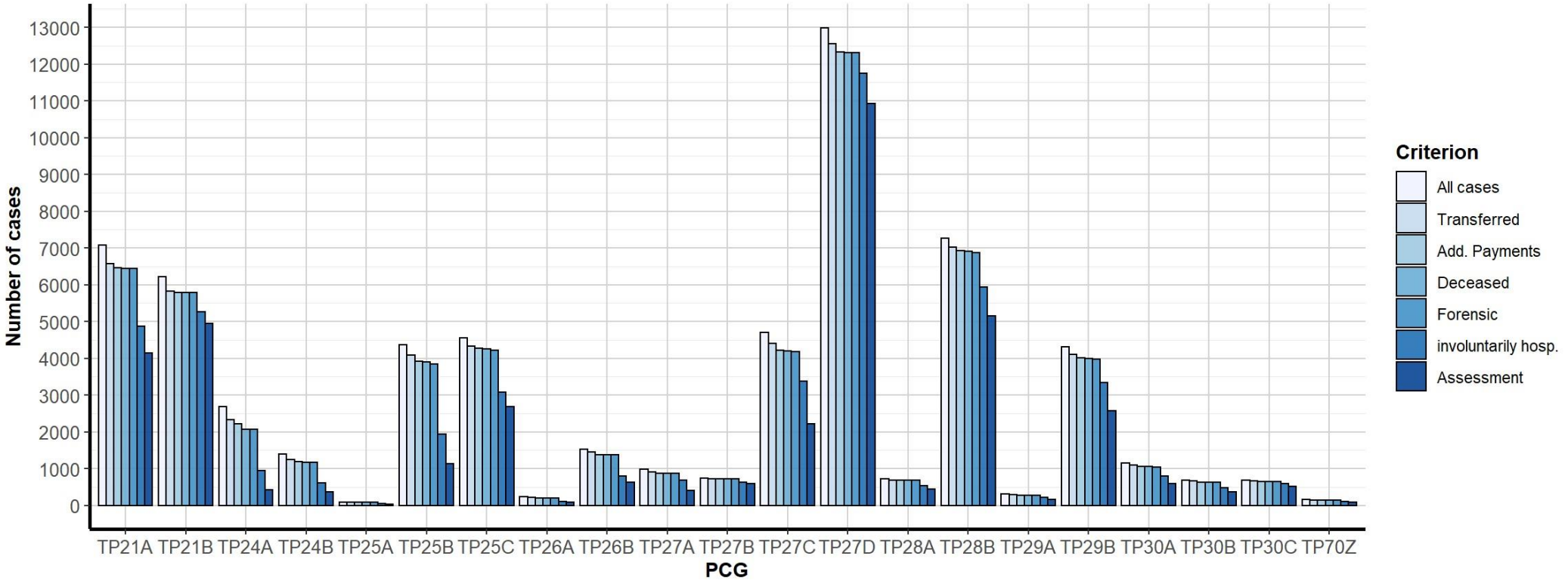
3 General idea & medical logic

- The medical logic of inpatient setting has been adopted: The cost-groups for the day care (DC) setting are the same as in the inpatient setting (IS)
  → $PCG_{IS} = PCG_{DC}$



- Dataset is constructed from already existing inpatient settings data. But: inpatient setting is not equal to the day care setting! Therefore data is adjusted in two steps:
  1. **Case delimitation:** *Only keep cases with day care characteristics*
  2. **Cost adjustments:** *Only include cost components that occur in day care setting*
- Due to potential distortions in data due to Covid, the year of 2020 was not included: 2018, 2019, 2021
- Principle of fully funded reimbursment: Sum of remunerations for all cases in a given PCG_{DC} must be equal to te sum of their cost

Case delimitation



Cost adjustments

- Nursing costs: Only 2/3 of inpatient (night shift (1/3) is subtracted), 8h night shift
- Additionally: none of the following:
    - Emergency entry
    - Hotel
    - Dining
    - Bed reservation

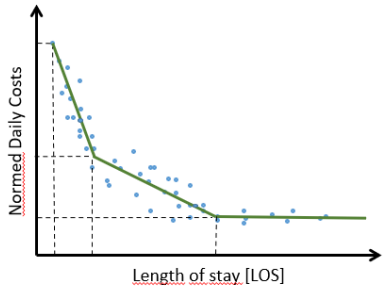
Summary: Case delimitation and cost adjustments

Summary table of case delimitation and cost adjustments of the data from 2018, 2019 and 2021.

Year	Total number of cases	Number of cases after case delimitation	Share of total cases	Average daily costs of all cases [CHF]	Average costs after case delimitation [CHF]	Average costs after case delimitation and cost adjustments [CHF]	Share of costs after case delimitation
2018	52′648	31′226	59.30%	767	739	381	51.60%
2019	53′381	32′099	60.10%	757	724	373	51.50%
2021	62′866	38′487	61.20%	765	722	376	52.10%

Calculation

- Equate adjusted costs after case delimitation with remunerations for each year and PCG_{DC}
- The calculation of more complex reimbursement curves, as is the case for the inpatient treatment setting, was left out for this analysis



- Since this analysis is based on patients from the inpatient treatment setting, a **constant** and **fixed daily cost weight** per PCG_{DC} appears to be a more appropriate approach.
- After the calculation of the CW_{DC}, reduction factors (RF) have been calculated to compare the decrease of the CW_{DC} with regards to the cost-weight of the inpatient setting (CW_{IS}):

$$\frac{CW_{DC}}{CW_{IS}} = RF$$

Results: Reduction Factors

- Reduction factors for each PCG_{DC}

RF 2018	RF 2019	RF 2021
0.5	0.509	0.511
0.522	0.526	0.536
0.438	0.456	0.472
0.444	0.444	0.484
0.547	0.522	0.587
0.472	0.477	0.486
	0.474	0.505
0.495	0.486	0.469
0.49	0.472	0.487
0.552	0.501	0.456
0.505	0.51	0.474
0.509	0.5	0.502
	0.51	0.511
0.539	0.508	0.445
0.511	0.509	0.498
0.554	0.445	0.437
0.503	0.487	0.487
0.552	0.496	0.484
0.494	0.5	0.513
0.526	0.551	0.531
0.42	0.455	0.427

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- Reduction factors for each PCG_{DC}
- Some of the now existing PCG‘s have been introduced in 2019 and are therefore not existent in 2018

Results: Reduction Factors

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- Reduction factors for each PCG_{DC}
- Some of the now existing PCG‘s have been introduced in 2019 and are therefore not existent in 2018
- On average, cost weights in day care setting are roughly 50% lower than in the inpatient setting:
  - **2018:** 49.6% (1-0.504)
  - **2019:** 49.6% (1-0.504)
  - **2021:** 49.4% (1-0.506)

Discussion of results

- On average, cost weights in day care setting are roughly 50% lower than in the inpatient setting
  → After the publication of the underlying paper, the year 2022 was included in the calculations and the RF was 0.504
- Other studies with same comparisons came to similar conclusions
  (e.g. Swiss pilot study from Heekeren et al. (2020))
- Studies from PEPP setting of Germany also observed that day care remuneration is significantly lower than the inpatient remuneration
  (although the range of results is relatively wide, ranging from 17% and 45.8%)

Conclusion

- Results are in line with similar studies
- Linking inpatient setting and day care treatment reduces potential false incentives and harmonise two different settings
- Concept and methodology could potentially be applied for day care psychiatry in other countries with DRG systems
- Further research should collect an own dataset (costs) and construct it‘s own PCG_{DC}‘s to see whether results differ
  → Method in this paper serves as an approximation

Thank you for your attention

Questions?

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