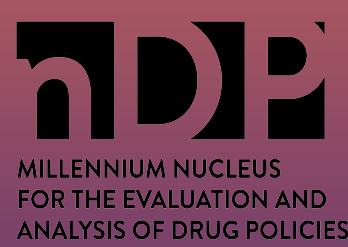


Polysubstance use, treatment completion, and contact with the justice system: a multistate analysis of treatments for substance use disorders between 2010-2019 in Chile



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Background

- Substance use disorders(SUD) often occur with criminality & contact with the justice system(CJS)
- People with polysubstance use (PSU) has shown more contacts with the CJS.
- Completing SUD treatment can help reducing the risk of contacts with the CJS, but not quite clear in people with PSU.
- More research is needed to understand the link between PSU, treatment completion, and contact with the CJS, specially in Latin America.

Objectives: Estimate the effects of PSU at baseline (vs. single substance use) on the probabilities of (i) completing baseline drug treatment and (ii) contacting with the CJS after treatment at 6 months, 1-, 3- & 5-years follow-ups.

Methods

Design: Retrospective cohort based on an administrative data’s record linkage. **Data:** Chilean substance use treatment programs and Prosecutor’s Office through a deterministic linkage process. **Ethics:** We are updating an existing ethical approval by the Griffith University GU Ref No: 2022/919.

Exposure: baseline PSU (using >1 substance at admission to SUD treatment); **Mediator:** SUD treatment outcome (complete vs. dropout/spelled by misconduct); **Outcome:** contact with CJS (committing an offense that led to a condemnatory sentence).

- We controlled for a number of confounding variables (listed in Figure 1), and weighted patients by the inverse probability of PSU(IPW).
- We described the cumulative incidence rate (x1,000 person-years) of patients with PSU and no PSU and incidence rate ratios(IRR) of treatment completion and contact with CJS, with and without IPWs.

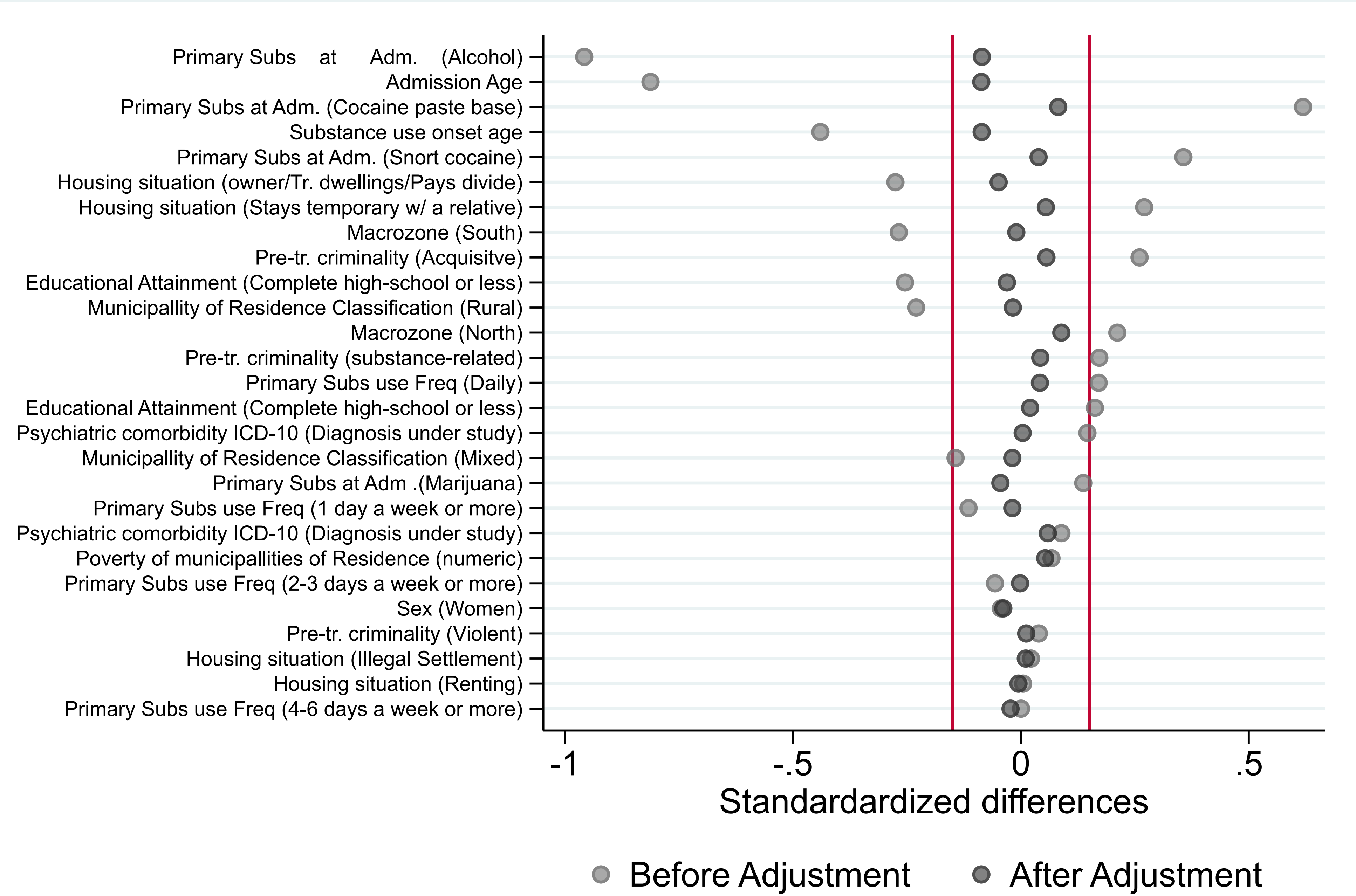


Figure 1: Covariate balance

- We used an illness-death multistate structure to estimate transitions from admission to treatment outcome, treatment outcome to contact with CJS, and admission to contact with CJS (not completing treatment) for patients with and without PSU (Figure 2).

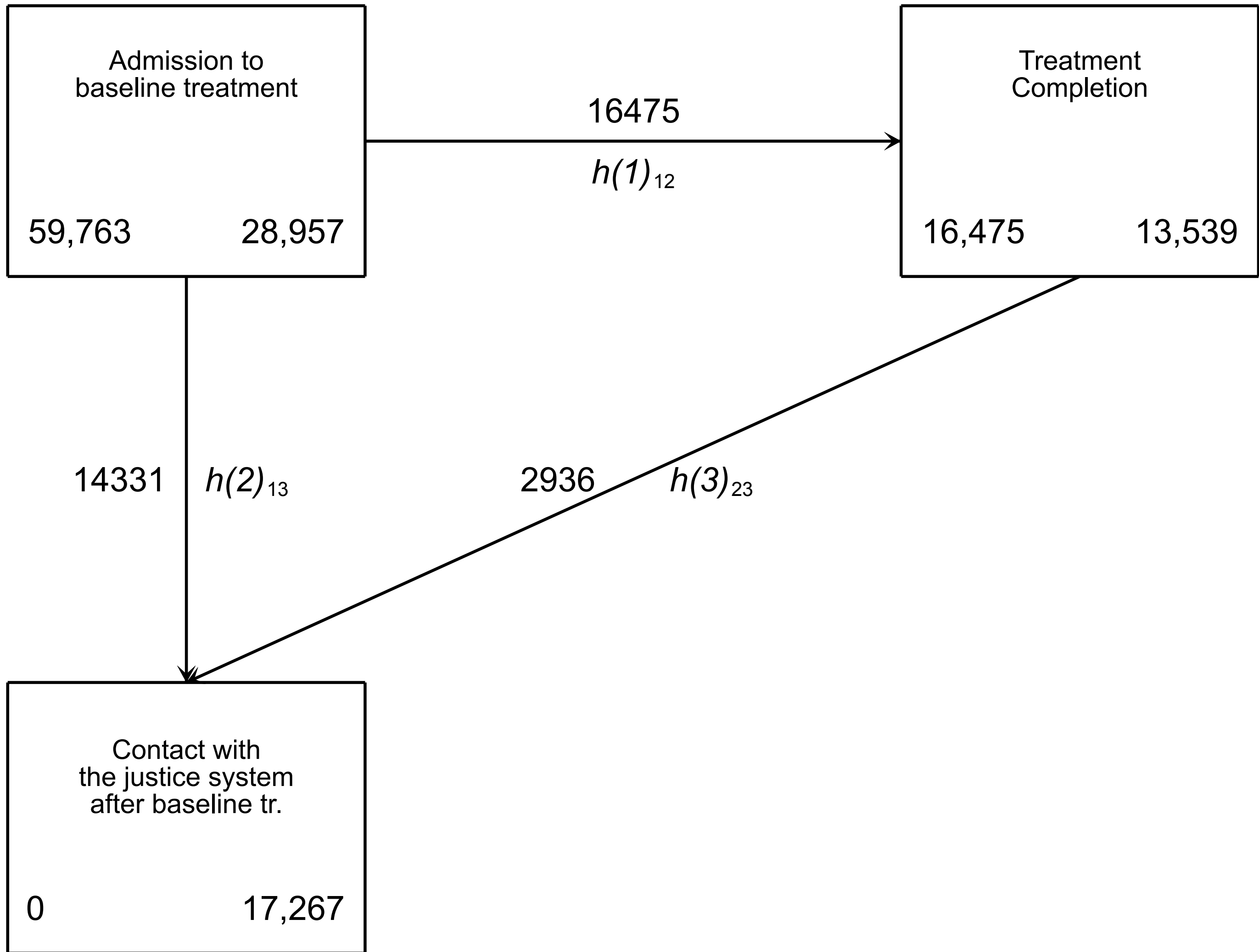


Figure 2: Multistate scheme

We calculated the Aalen-Johansen for transition probabilities at 6 months, 1, 3 & 5 years.

Preliminary Results

- Before IPWs** patients with PSU had lower rates of treatment completion (IRR=0.53 95%CI: 0.51,0.54) and greater rates of contact with the CJS vs. patients with no PSU (IRR=1.68 95%CI: 1.62,1.74).
- After IPWs:** patients with PSU had lower rates of treatment completion (IRR=0.77 95%CI: 0.74,0.8) but greater rates of contact with the CJS vs. patients with no PSU (IRR=1.11 95%CI: 1.06,1.17).

Table 1: Transition probabilities in states

| Transition | Time | PSU | No PSU |
|--|--------|------------------|------------------|
| From admission to contact with CJS | 6 mths | 2.2 (2.1,2.3) | 1.8 (1.7,1.9) |
| From admission to contact with CJS | 1 yr | 7.9 (7.6,8.1) | 6.6 (6.4,6.8) |
| From admission to contact with CJS | 3 yrs | 24.4 (24.0,24.7) | 20.7 (20.3,21.1) |
| From admission to contact with CJS | 5 yrs | 33.3 (32.8,33.7) | 29.5 (29.0,30.0) |
| From admission to tr.completion | 6 mths | 3.1 (2.9,3.2) | 4.0 (3.9,4.2) |
| From admission to tr.completion | 1 yr | 14.6 (14.3,14.8) | 17.6 (17.3,18.0) |
| From admission to tr.completion | 3 yrs | 23.6 (23.2,23.9) | 27.0 (26.6,27.4) |
| From admission to tr.completion | 5 yrs | 21.4 (21.0,21.8) | 24.9 (24.4,25.3) |
| From tr.completion to contact with CJS | 6 mths | 3.0 (2.0,4.0) | 2.4 (1.3,3.4) |
| From tr.completion to contact with CJS | 1 yr | 8.7 (7.5,9.8) | 5.9 (4.8,7.0) |
| From tr.completion to contact with CJS | 3 yrs | 21.1 (20.0,22.3) | 16.2 (15.1,17.3) |
| From tr.completion to contact with CJS | 5 yrs | 28.6 (27.4,29.8) | 23.0 (21.8,24.2) |

Transition probabilities: People with PSU have higher probabilities of contact with the CJS, both post-admission and post-treatment, vs. those without PSU. Similarly, they are less likely to complete treatment. Completers had lower probabilities of CJS contact vs. non-completers after 3 years since admission.

- Codes & markdowns: https://fondecytacc.github.io/nDP/index_prop_grant23_24

Discussion

Treatment completion can reduce the risk of criminal justice involvement for people with PSU, evident at the 3-year point when most users have finished treatment. Further analysis is needed. People with PSU may need enhanced treatment to complete treatments and avoid contact with the CJS.

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