Psynary

Audit of Treatment Optimisation Outcomes for Depression in a Tokyo Private Clinic

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AIMS AND HYPOTHESIS
A clinical audit of outcomes for patients presenting with depression to a private psychiatry clinic in Japan, to benchmark these outcomes against expected remission rates seen in clinical trials.

BACKGROUND
The American Clinic Tokyo (ACT) is a private psychiatry clinic providing services to the ex-pat community in Tokyo. It is part of an international collaboration and development site for an online system called Psynary that assists clinicians in the initial assessment of mood and anxiety disorders, monitoring outcomes and accelerating optimisation of medical treatments.

METHODS
All patients presenting to ACT with major depressive disorder between August 2014 and December 2016 who had completed a baseline assessment and at least one review follow up assessment on Psynary were included in the audit. Psynary is an entirely anonymous system and all patients using the system consent to data being used for service audit and development. The primary outcome analysed in the audit was cumulative remission rates associated with progressive stages of treatment optimisation. An iteration of treatment was defined as a medication change with dosage optimization coded as part of the same iteration of treatment. A range of other clinical outcomes are presented. Results were compared to another Psynary reference clinic, in public sector secondary mental health service in New Zealand[1].
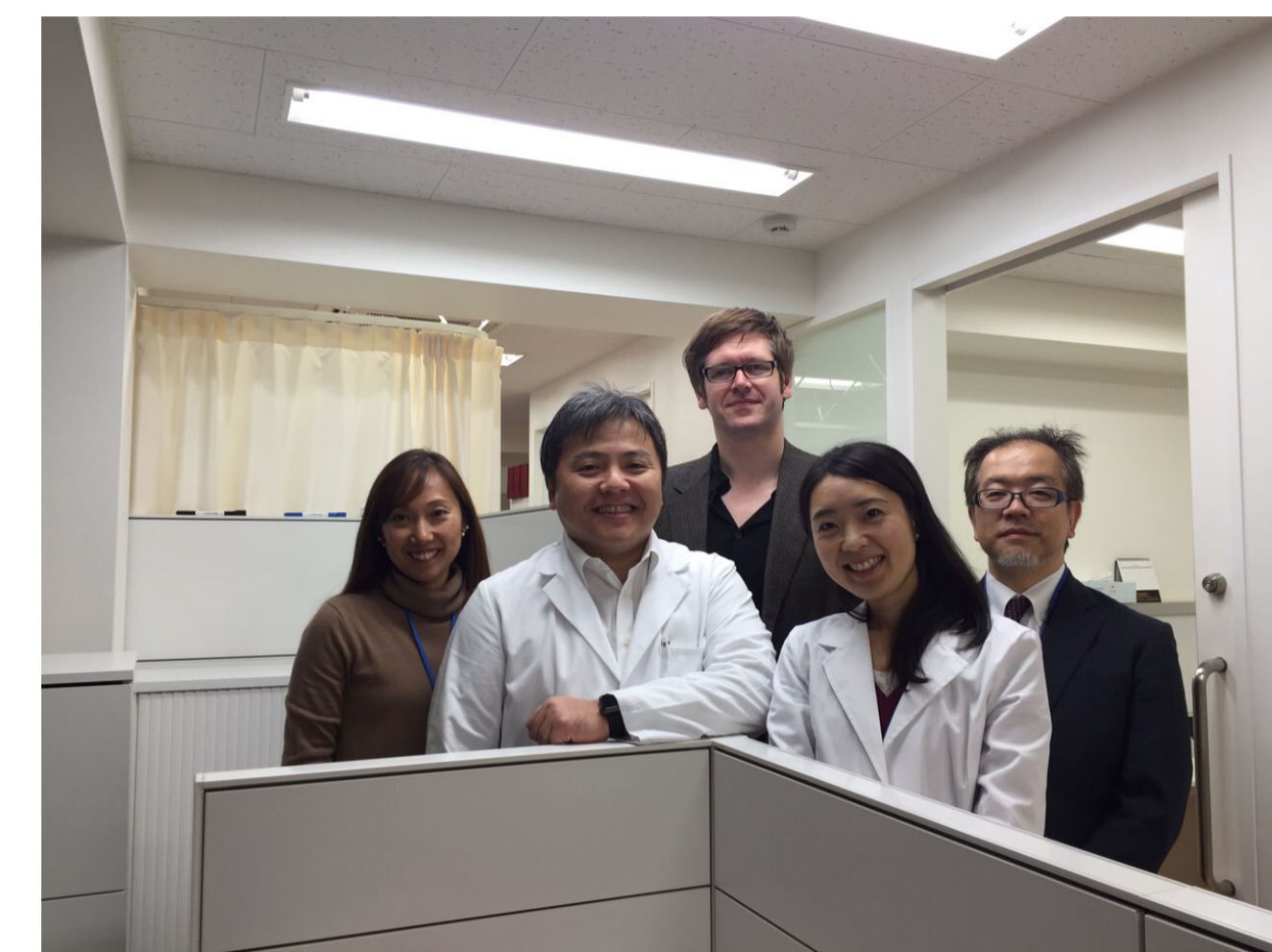
American Clinic Tokyo

R8 Depression
Depression severity in Psynary is measured using a 30 item questionnaire, the R8 Depression, that covers all the domains of depressive symptoms. It is available in English, Japanese and Hindi versions. Remission cut-offs have been established from a total normative sample of 499 English speakers and 251 Japanese speakers. The R8 Depression has good external (correlation with PHQ-9 = 0.89), and internal validity (Cronbach alpha = 0.91, n = 377).

Psynary
Of those who log into Psynary following registration by the clinic, 96% go on to complete the baseline assessment, suggesting a high degree of acceptability to patients in spite of the time requirement. Of all users who log on to Psynary, 93% complete the baseline assessment.

Results
Sample: Audit data was available from 91 patients. Baseline characteristics indicated a clinical cohort similar to primary care cohorts, with relatively low levels of treatment resistance compared to the secondary care reference clinic. Of 67 patients using Psynary, 35 (52%) scored 8 or more on Hypomania Check List 16 item questionnaire[2] , screening positive for bipolar disorder (I or II).

Outcomes: A 51% remission rate was seen after the first iteration of treatment, relatively high compared to remission rates seen in clinical trials. Patients not achieving remission were offered successive iterations of treatment optimization. 67 patients either achieved complete remission from depression or completed four iterations of treatment optimization. 24 patients elected not to proceed with treatment optimization despite not achieving remission, with a final cumulative remission rate for the whole sample of 71%. When those not electing to proceed with treatment optimization are excluded, a cumulative remission rate of 97% was achieved. By comparison, the secondary care reference clinic achieved an overall cumulative remission rate of 22%.
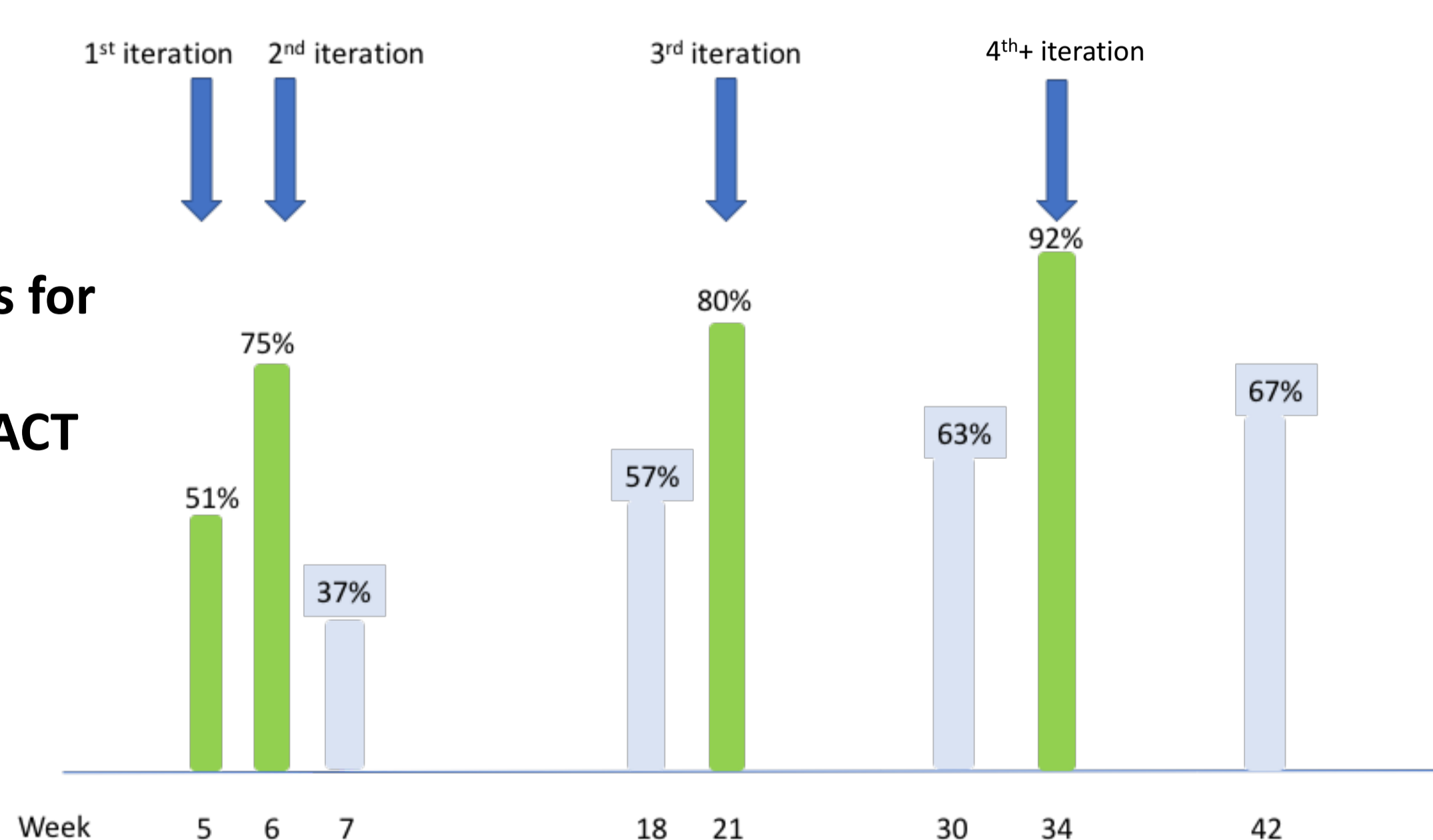
Sequential Treatment: median time to 3rd, 4th and 5th treatment iterations for non-responders was 8, 12 and 18 weeks respectively.

Days from baseline to remission	Final treatment iteration			
	1st	2nd	3rd	4th+
Mean	55	56	145	196
Median	34	43	145	238
Quartile 1	26	28	119	169
Quartile 3	60	49	170	244

Baseline demographics

Male	48 (53%)
Mean Age in years (range)	33 (18-63)
In employment	56 (62%)
Student	21 (23%)
Homemaker	4 (4%)
Unemployed	8 (9%)
Perminently sick	2 (2%)
Current Episode	
Median duration of episode	6 months
No. of patients with 1 or more treatment change before attending clinic	16 (18%)
No.with suicidal ideation	42 (46%)
No with suicidal plans	5 (5%)
Alcohol use	
Drinkers	61 (67%)
Mean units alcohol in last week (range)	18 (1-120)
Past History	
Median no. past episodes	2
Median age at onset of 1st episode	18
Past hospital admission	2 (2%)
Past DSH	9 (10%)
Past suicide attempt	3 (3%)

R8 Depression severity at baseline and last follow up

Severity	BL		End points	
	n	%	n	%
Remission	0	0%	63	69%
Mild	18	20%	17	19%
Moderate	41	45%	5	5%
Severe	32	35%	6	7%
Total	91	100%	91	100%

Proportion of patients reaching symptomatic remission by treatment iteration: ACT clinic (n=91)

■ % In remission   ■ % not in remission

Comparison timelines and cumulative remission rates for stages of treatment optimisation: STAR*D[3] vs ACT

■ ACT clinic
■ STAR*D

Proportion of patients reaching symptomatic remission by treatment iteration Reference clinic (n=60)

■ % In remission   ■ % not in remission

CONCLUSIONS
Routine online clinical assessment tools can be integrated into the care pathways of a private psychiatric clinic enabling detailed characterisation of the clinic population and real time feed-back of individual patient recovery and overall clinic outcomes. This ACT cohort demonstrates lower levels of treatment resistance, greater adherence to treatment optimisation and hence enhanced cumulative remission rates compared to cohorts seen in public sector secondary care mental health services and clinical trials examining treatment optimisation strategies.
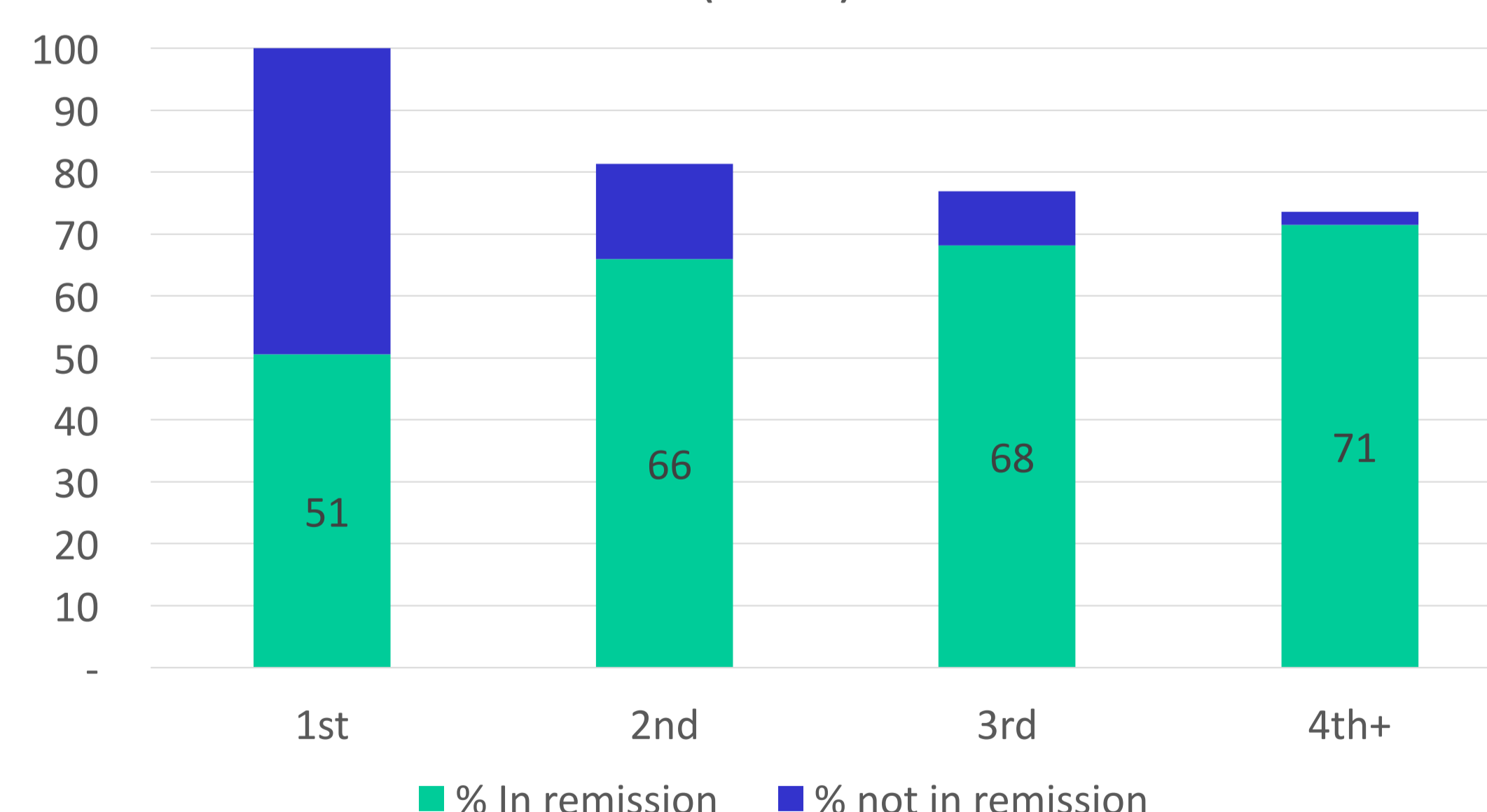
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2. Forty L et al (2010) Reducing the hypomania checklist (HCL-32) to a 16-item version. *J. Affective Disorders* **124**:351-356.
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Declaration of interests: Dr Andrew Kissane & Dr Richard Tranter are co-founders of Psynary.