Orygen YOUTH Health
Research Centre

Early intervention for Borderline Personality Disorder in young people

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THE UNIVERSITY OF MELBOURNE

Opening minds to a brighter future

Declaration of interest: none

Orygen Youth Health (OYH)

- **Australia's largest youth-focused mental health organisation**
- **Comprised of**
  - Specialised clinical program
  - Research centre
  - Training & communications program

OYH Clinical Program

- **Comprehensive public mental health service for youth (aged 15-25)**
  - Outpatient
  - Inpatient
  - Outreach
  - 24 hour crisis team
- **All severe mental health problems**

Helping

Young

People

Early

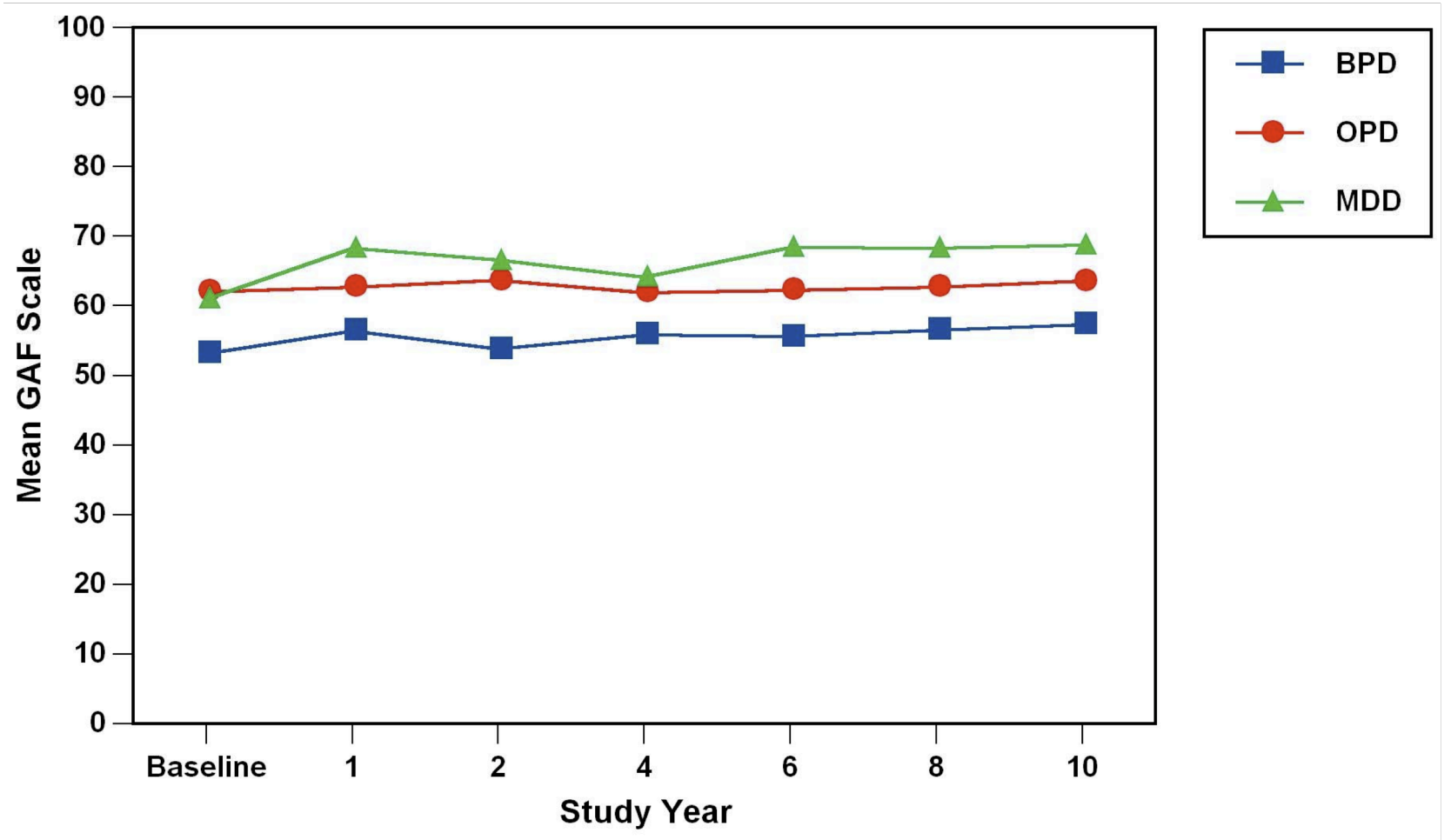
BPD outcome in adulthood symptomatically better than expected

- McLean Study of Adult Development
- Collaborative Longitudinal Study of PDs
- Longitudinal Study of PDs
- Children in the Community Study

But…

- Significant & continuing disability across a broad range of functional domains for many
- High usage of mental health resources
- High mortality (Pompili, Girardi et al. 2005)

CLPS shows little variation over 10 year follow up *(Gunderson et al, personal communication)*

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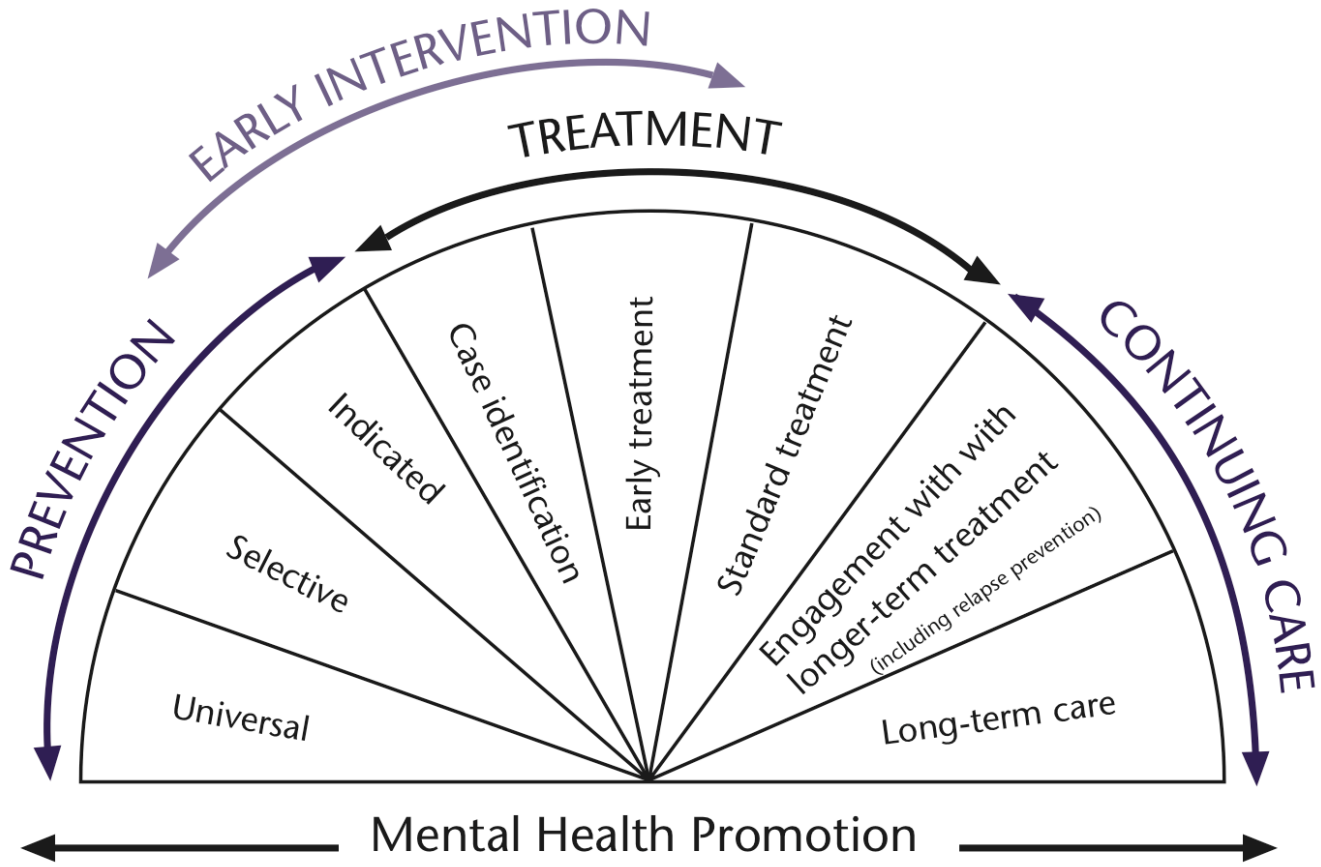
Prevention and early intervention have face validity

Moving toward prevention



Mental Health Intervention Spectrum *(adapted from Mrazek & Haggerty, 1994)*

Universal & selective prevention

- Causal risk factors for BPD (Cohen et al)
  - Abuse
  - Poverty
  - Unwanted pregnancy
  - Paternal sociopathy
  - Maternal dissatisfaction

Universal & selective prevention

- **Diverse outcomes (multifinality)**
- **Intervention desirable for many reasons but requires major social and political change**
  - Prevention of BPD not the only aim
  - Feasibility problems
    - N = 10,000 +++ required for intervention trials

Cuijpers, 2003

Precursor signs and symptoms

(Eaton, et al., 1995)

Signs and symptoms from a diagnostic cluster that precede disorder but do not predict its onset with certainty

Precursor signs and symptoms

(Eaton, et al., 1995)

- **Disruptive behavior disorders**

  (Bernstein, et al., 1996; Zoccolillo, et al., 1992; Cohen, et al., 2005; Rey, et al., 1995)

- **Depressive symptoms**

  (Cohen et al., 2005; Lewinsohn, et al., 1997; Rey et al., 1995)

Child/adolescent PD symptoms strongest predictor of young adult PD

over and above disruptive behavior disorders & depressive symptoms *(Cohen et al., 2005)*

Predictors of young adult BPD

- **BPD age 14 years → risk ratio 13 for BPD two years later**
  (Bernstein et al., 1993)

- **Unlikely to represent the only pathway to BPD (equifinality)**

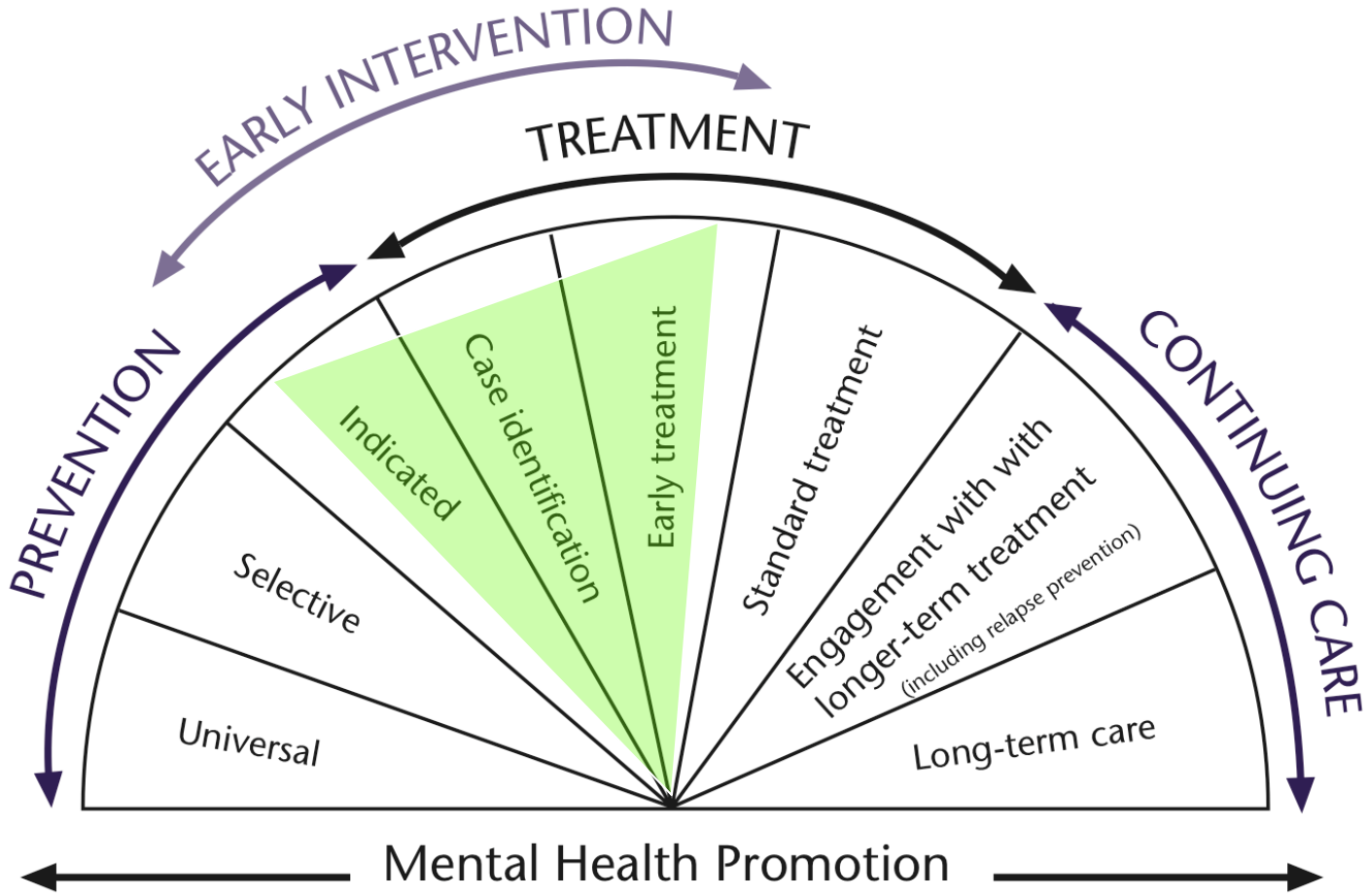
Prevention & early intervention

- **Current evidence supports *indicated prevention* and *early intervention* programs for emerging BPD phenotype**

Chanen, et al., Current Psychiatry Reviews 4, 48 (2008).
Chanen, et al., Medical Journal of Australia 187, S18 (2007).

Mental Health Intervention Spectrum

(adapted from Mrazek & Haggerty, 1994)



BPD in adolescence

“The diagnosis that dare not speak its name”

BPD in adolescence

- **Phenotypic differences to adult BPD**
  - Lack of developmentally appropriate PD criteria or illustrations of current PD criteria in DSM or ICD
- **No less reliable or valid than 'adult' BPD**
- **No discontinuity from adolescence to adulthood**

Chanen, et al., Current Psychiatry Reviews 4, 48 (2008); Miller et al. 2008

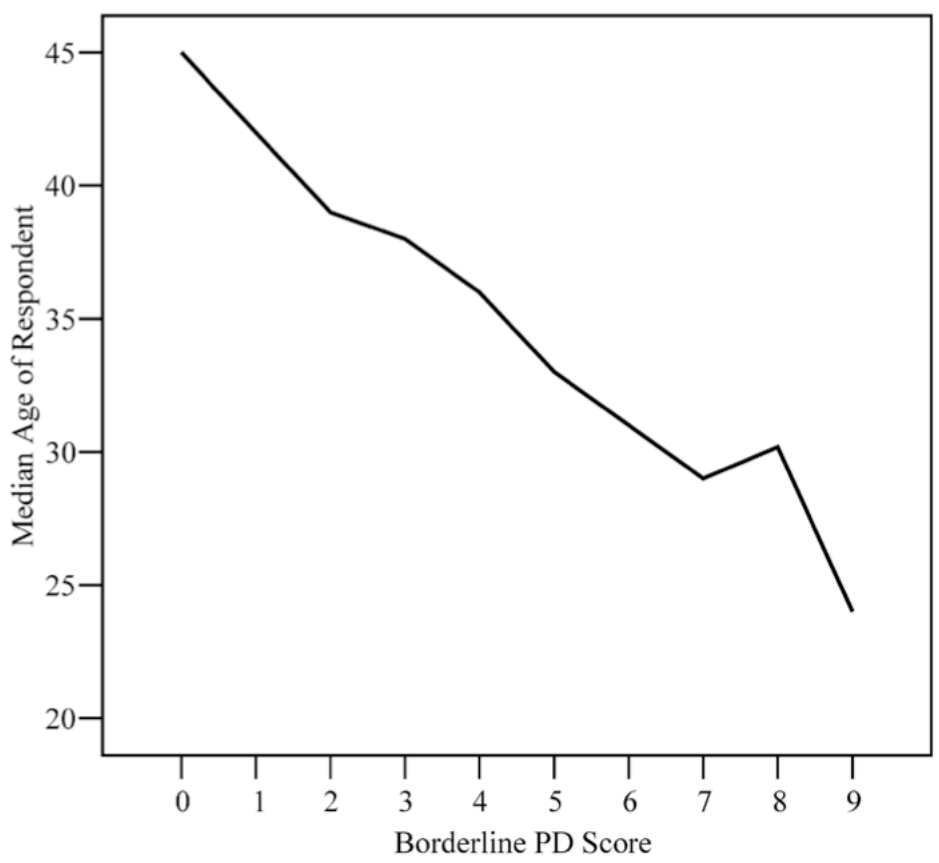
BPD is a disorder of young people

≈ 3% community-dwelling teenagers and youth

(Bernstein et al. 1993; Moran et al. 2006)

Younger age associated with higher BPD score

(e.g. Ullrich & Coid, 2009)



BPD in clinical settings

- **11% adolescent outpatients**

  Chanen et al., Journal of Personality Disorders 18, 526 (2004).

- **22% outpatient youth**

  Chanen et al., Journal of Personality Disorders 22, 353 (2008)

- **49% inpatients** *(Grilo et al. 1998)*

BPD in adolescence not reducible to Axis I diagnoses

- Disruptive behaviour disorder
- Substance use
- Mood
- Anxiety

Chanen, M. Jovev, H. J. Jackson, Journal of Clinical Psychiatry 68, 297 (2007).

BPD significant predictor over and above Axis I disorders & other PDs for

- Psychopathology
- General functioning
- Peer relationships
- Self-care
- Family and relationship functioning

Chanen, M. Jovev, H. J. Jackson, Journal of Clinical Psychiatry 68, 297 (2007).

BPD associated with multiple psychosocial problems

Chanen, M. Jovev, H. J. Jackson, Journal of Clinical Psychiatry 68, 297 (2007).

- **More likely to have**
  - Axis I conditions (including substance use)
  - Poorer psychosocial functioning
  - More internalising and externalising problems
  - Family breakdown
  - Welfare dependency
  - Involvement with justice child protection systems
  - Health risk behaviours (sexual, substance use)

Prospectively associated with diverse functional and psychopathological poor outcomes

- Future BPD diagnosis
- Increased risk for axis I disorders (especially substance use and mood disorders)
- Interpersonal problems
- Distress
- Reduced quality of life.

  (Cohen et al. 2005; Crawford et al. 2008; Winograd et al. 2008)

- **Persist for decades** *(Winograd et al. 2008)*

First psychiatric contact for adults with BPD is in youth

- **17-18 years** (Zanarini et al. 2001; Clarkin et al. 2004)
- **22 years** (Davidson et al. 2006)

Prevention & early intervention

- **Adolescent BPD**
  - significant current psychosocial problems
  - marker of future psychosocial problems
  - commonly associated with help-seeking
  - often goes unrecognised
- **Potential opportunities for EI frequently missed**
- **Can be identified in outpatients using screening**

Chanen et al., Journal of Personality Disorders 22, 353 (2008).

‘Best bet’ for immediate action is indicated prevention and early intervention

- **Sub-syndromal or full-syndrome BPD at first presentation**
- **Target diverse poor outcomes, not just ‘late-stage’ DSM-IV syndrome** *(McGorry, 2007)*
  - **Progression to symptomatically chronic BPD uncommon** *(Shea et al., 2002; Zanarini, et al., 2006)*
  - **1° prevention of 2° disorder** (Kessler *et al.*1993)
    - e.g. BPD predicts incident substance use, mood and anxiety disorders *(Grant et al., 2008)*

Possible risks

- Stigma
- Iatrogenic harm
- Unnecessary fear of illness
- Restriction of life goals
- Medication use, polypharmacy & side-effects

Chanen, et al., Current Psychiatry Reviews 4, 48 (2008)

Early Intervention Trial

HYPE study design

- **RCT**
  - Cognitive Analytic Therapy (CAT) *(Ryle 1997)*

    vs.
  - Manualised "Good Clinical Care" (GCC)

- **Quasi-experimental comparison**
  - Historical Treatment as Usual (TAU)
    - Same service as RCT
    - Immediately prior to implementation of RCT
    - Same RCT inclusion/exclusion criteria

HYPE study design

TAU

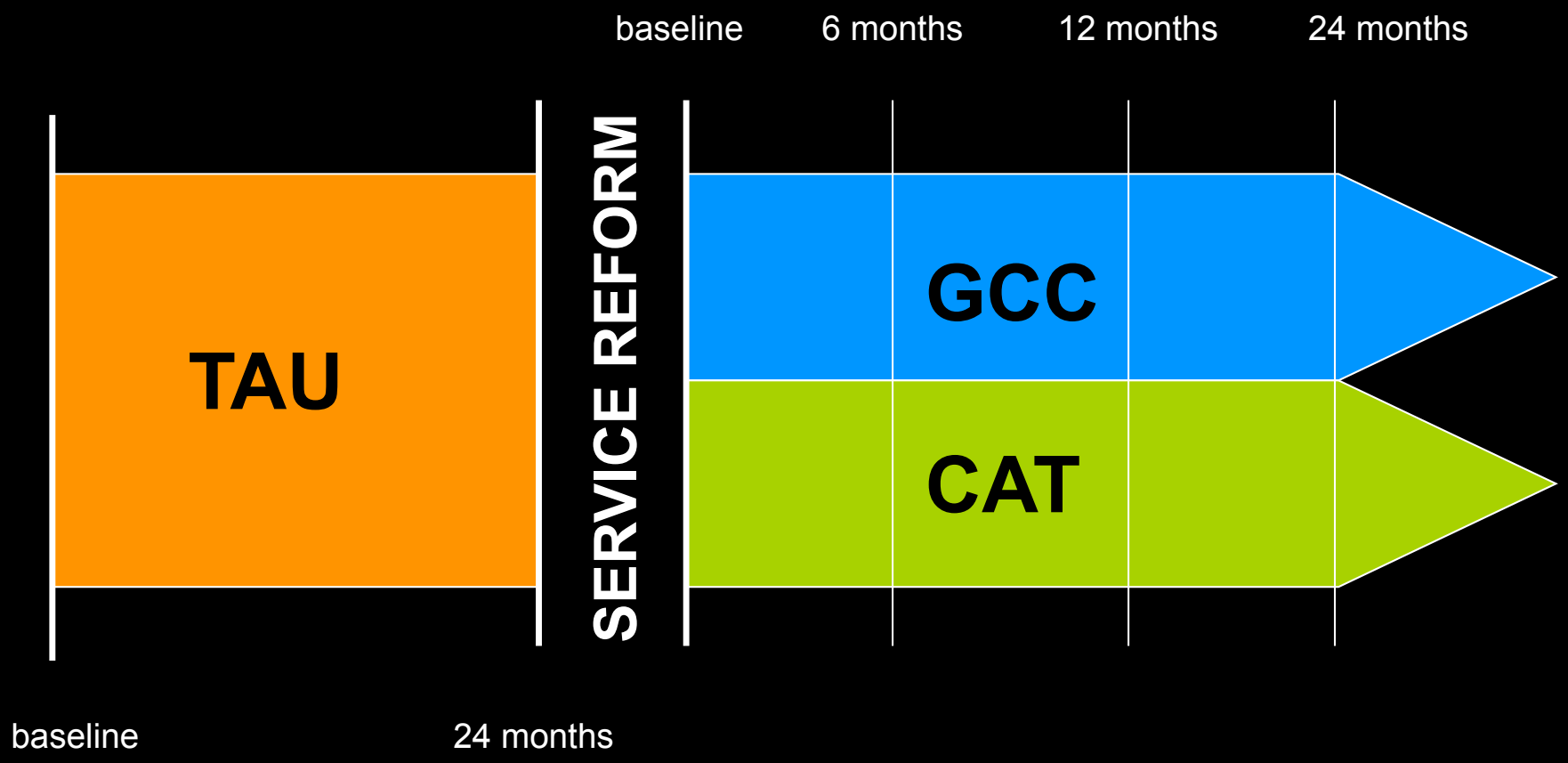
Unrestricted treatment comprising at least some of:

- Assessment
- Case management
- Limited assertive outreach
- Individual and/or family interventions
- Activity groups
- Psychiatrist referral ± pharmacotherapy

baseline

24 months

HYPE study design



CAT & GCC participants

- 15-18 yo
- Sufficiently fluent in English
- ≥ 2 DSM-IV BPD criteria
- First diagnosis and treatment for BPD

Interventions

Cognitive Analytic Therapy

- Common language and theoretical and practical integration of psychodynamic and cognitive ideas
- "Object-relations informed approach to cognitive therapy"

  (Ryle 1997, Ryle & Kerr 2002)

Good Clinical Care

- **'Modular' treatment package developed for this study**
- **Deliver high quality general clinical care**
- **Structured problem solving for all participants**
- **Modules for co-occurring problems**

  e.g. depression, anxiety disorders, substance use
  - CBT-based

Common treatment elements

- **Up to 24 weekly sessions CAT or GCC**
- **Same therapists delivered both interventions and case management** (2 ♀, 1♂ therapists)
- **Equal access to integrated, team-based HYPE model of care**

HYPE model

- **Rigorous diagnosis**
- **Assertive case management integrated with individual psychotherapy**
- **Active engagement of families or carers**
- **Supervision & quality assurance**
- **Common Orygen service elements**
  - Crisis & inpatient care

GCC	CAT
✓ Time limited	✓ Time limited
✓ Collaborative	✓ Collaborative
✓ Treatment of mental state disorders	✓ Treatment of mental state disorders
✓ Assertive case management	✓ Assertive case management
✓ Crisis team/inpatient care	✓ Crisis team/inpatient care
	+ Narrative reformulation
	+ Diagrammatic reformulation
	+ Integrative model of the self

Intervention groups did not differ in age, gender, SES

	CAT *(n=41)*	**GCC** *(n=37)*	**TAU** *(n=32)*	**Total** *(n=110)*
Age; mean (SD)	16.3 (0.8)	16.6 (1.0)	16.2 (1.0)	16.3 (1.0)
Female sex (%)	82.9	67.6	71.9	74.5
Socioeconomic status (%)				
Low	61.0	48.6	62.5	57.3
Middle	17.1	24.3	25.0	20.9
High	22.0	27.0	12.5	20.9

Occupation (%)	CAT *(n=41)*	GCC *(n=37)*	TAU *(n=32)*	Total *(n=110)*
Secondary student	65.9	45.9	65.6	59.1
2° school dropout past month	12.2	13.5	9.4	11.8
Tertiary student	4.9	5.4	0	3.6
Any employment	7.3	8.1	6.3	7.3
Unemployed	9.8	24.3	18.8	17.3
Juvenile detention	0	2.7	0	0.9

	CAT *(n=41)*	**GCC** *(n=37)*	**TAU** *(n=32)*	**Total** *(n=110)*
Lifetime parasuicide episodes; median (IQR)	11.0 (3.0-54.0)	6.0 (2.0-27.0)	5.5 (1.0-17.8)	8.0 (2.0-26.5)
Never parasuicide; N (%)	1 (2.4)	4 (10.8)	5 (15.6)	10 (9.1)
BPD criteria; mean (range)	4.4 (2-8)	4.5 (2-8)	4.1 (2-9)	4.3 (2-9)
Number Axis I diagnoses; mean (SD)	3.0 (1.7)	2.9 (1.4)	1.7 (1.4)	2.6 (1.6)
Number Axis II diagnoses (incl. BPD); mean (SD)	1.5 (0.9)	1.5 (0.9)	1.3 (0.9)	1.5 (0.9)

Outcome Variables

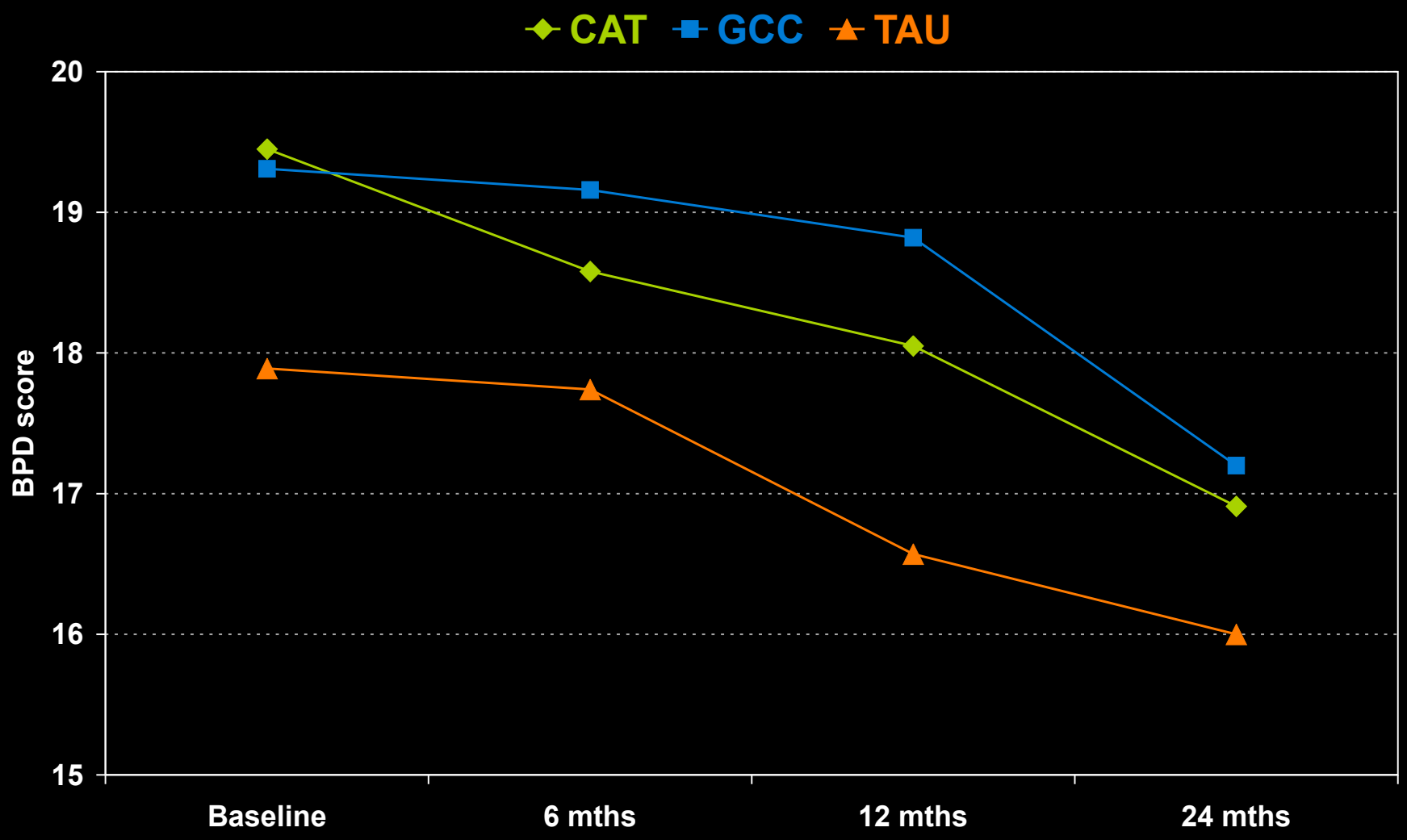
- **Total BPD score (SCID-II)**
- **Youth self-report (YSR;** Achenbach, 1991**)**
  - Internalising
  - Externalising
- **Social and occupational functioning (SOFAS)**
- **Parasuicidal behaviours**
  - suicide attempts and non-suicidal self-injury
  - semi-structured interview
  - coded as: none, monthly, weekly and daily

Statistical models

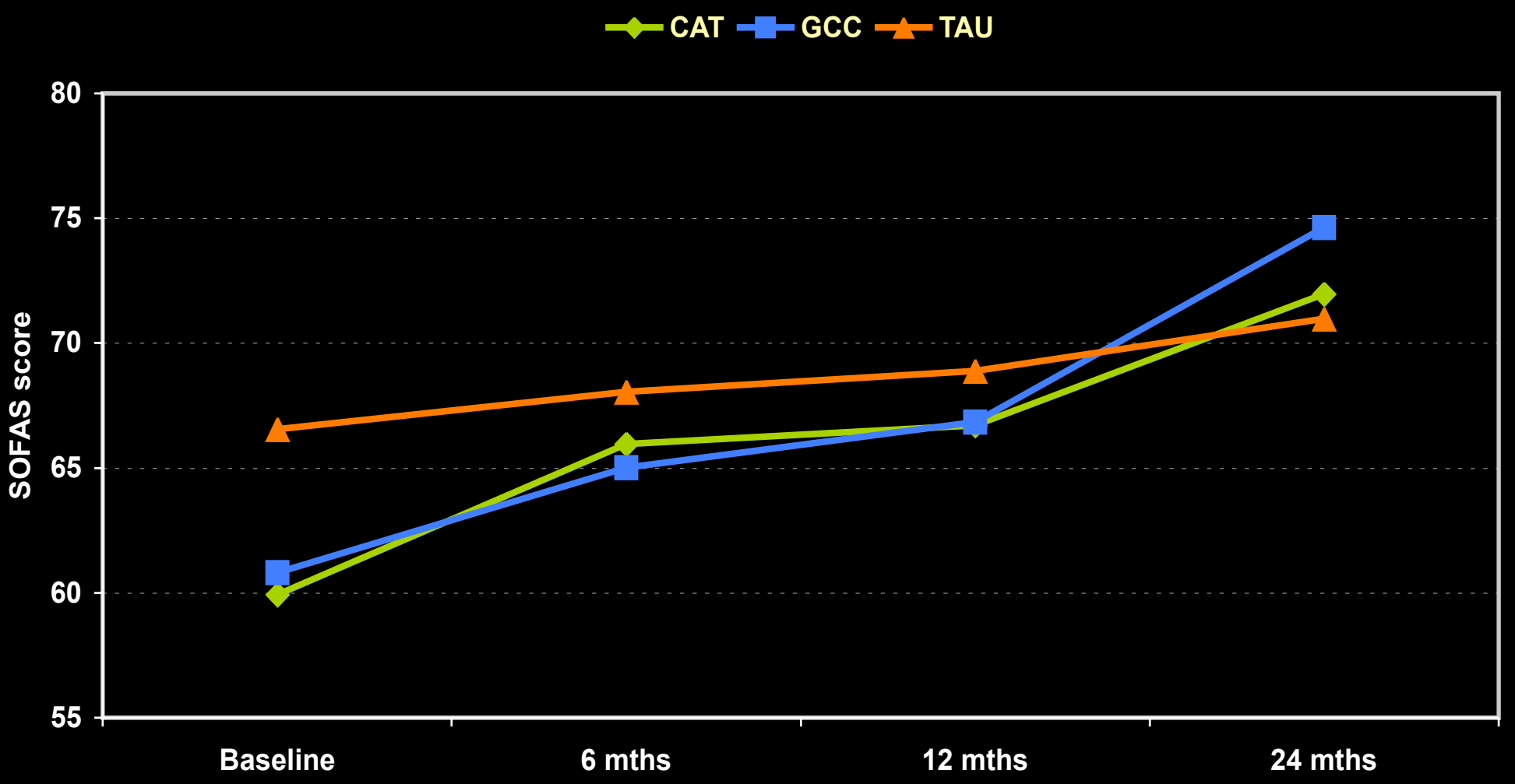
- **All models adjusted for covariates**
  - total Antisocial PD score
  - mood disorder
  - substance-use disorder

Results

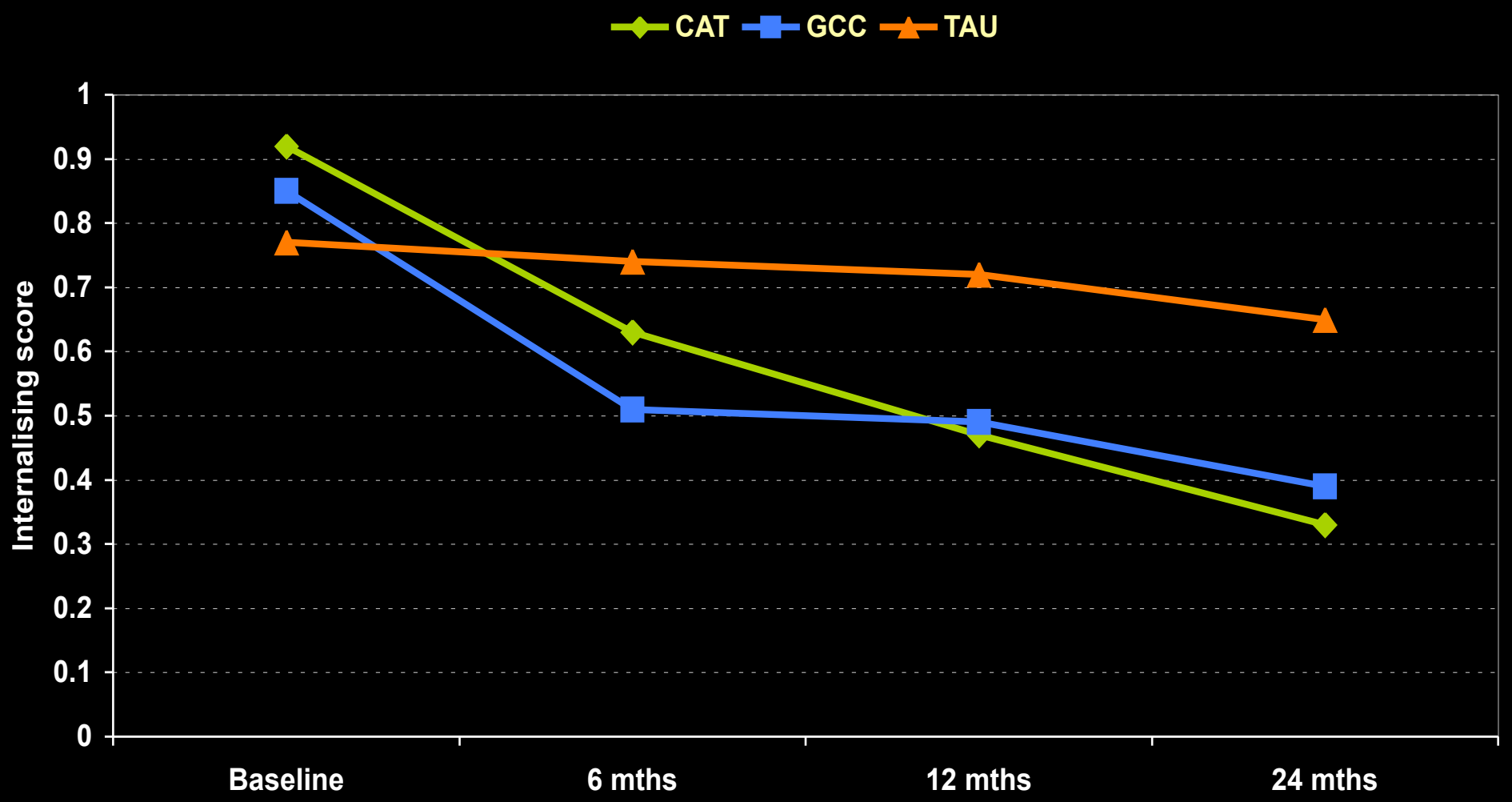
Total BPD (SCID-II) predicted scores



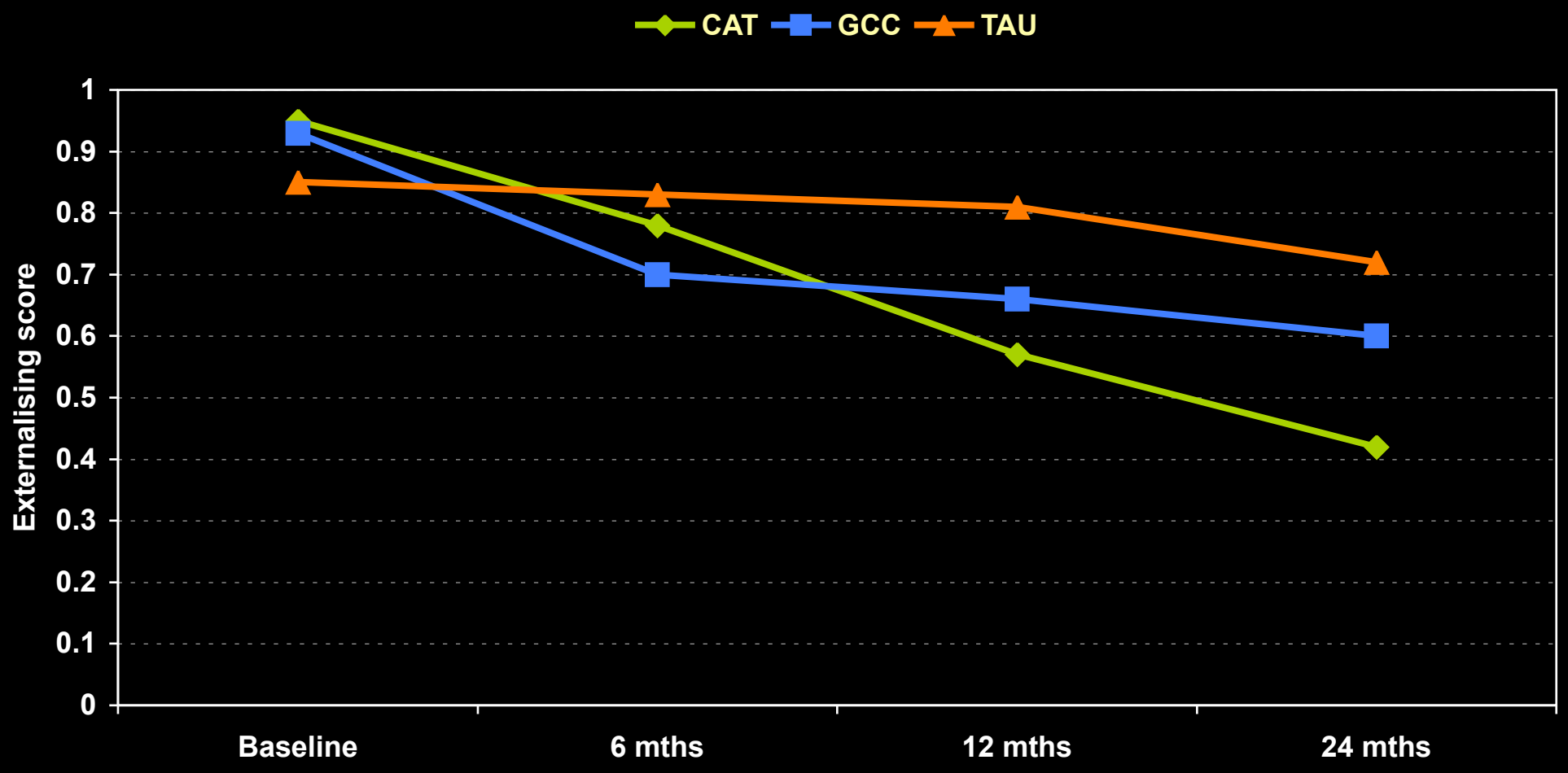
SOFAS predicted scores



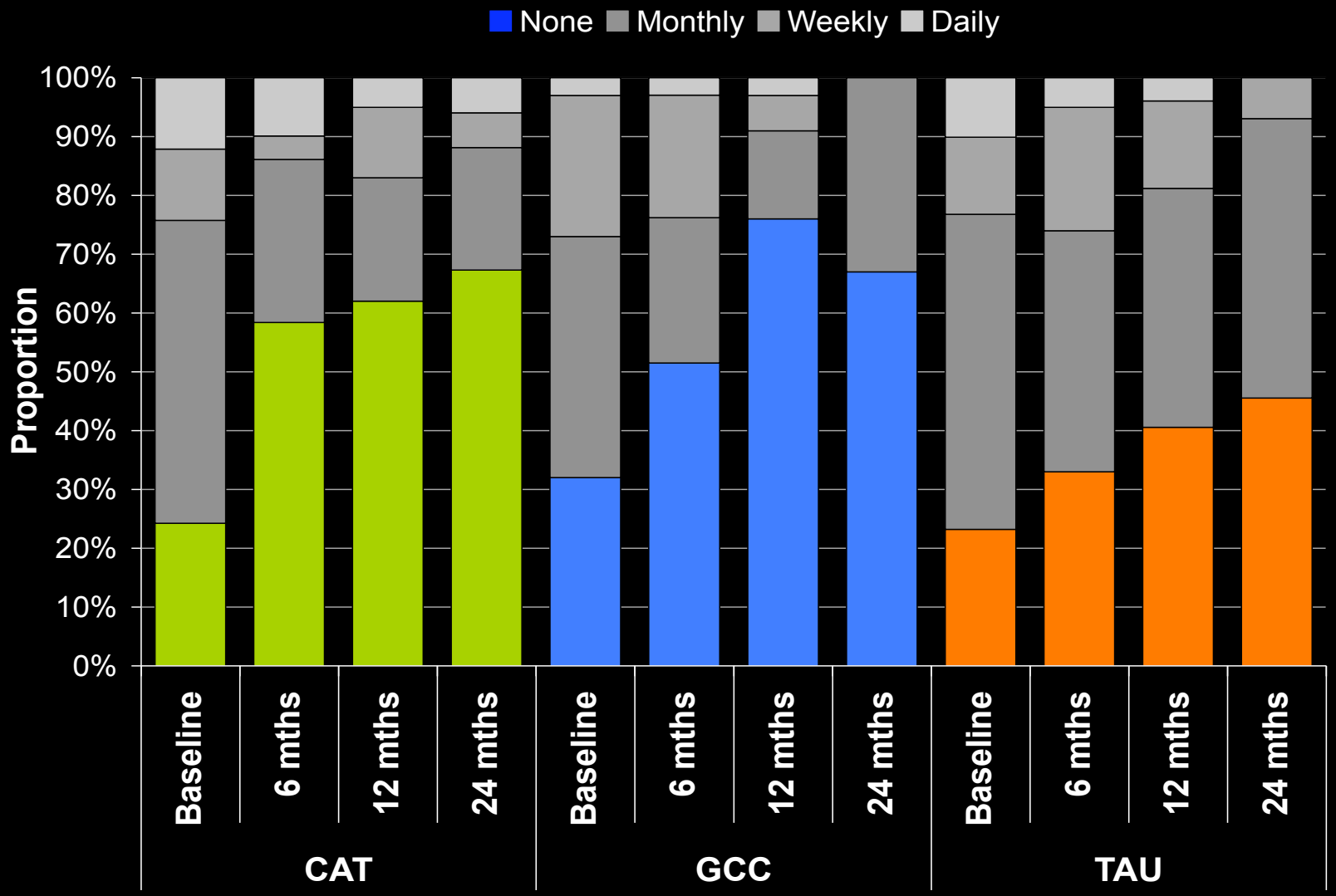
Predicted internalising scores



Predicted externalising scores



Proportion not engaging in parasuicide



All treatment groups demonstrated significant improvement

- CAT > GCC for externalising
- CAT > TAU for internalising and externalising
- GCC > TAU for internalising and SOFAS

Early intervention for BPD is possible

- **"Proof of concept"**

  Chanen et al., British Journal of Psychiatry 193, 477 (2008)

  Chanen et al., Australian and New Zealand Journal of Psychiatry 43, 397 (2009)

- **Patients 13-15 years younger than in recent RCTs**

  Clarkin et al., 2007; Giesen-Bloo et al., 2006; Linehan et al., 2006; Davidson et al., 2006

- **Basic reforms to existing services might have important effects**

  - Rapidly achieved

Questions

- ‘Complex’ interventions *vs.* individual psychotherapy
- Is HYPE model the most effective ingredient?
- Specific value of individual psychotherapy within the HYPE package?
- Sub-syndromal *vs.* full-syndrome BPD

Questions

- **Longer-term follow-up**
  - gains sustained?
- **Reduce unhelpful engagement with adult treatment settings?**
- **Promote appropriate help-seeking?**
  - Especially given risks for future mental disorders

Early Intervention as a platform for investigating BPD

Duration of illness factors

(Chanen et al., 2008)

- **Duration of BPD**
- **Treatment**
  - e.g. Prolonged polypharmacy *(Zanarini et al., 2004)*
    - 40% ≥ 3 concurrent medications
    - 20% ≥4
    - 10% ≥ 5
- **Recurrent or chronic common mental disorders** *(Zanarini et al., 2004)*
- **Cumulative traumatic events** (Zanarini et al., 2005)
- **Associated lifestyle factors**

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Psychiatry Research: Neuroimaging 163 (2008) 116–125
PSYCHIATRY RESEARCH NEUROIMAGING
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Orbitofrontal, amygdala and hippocampal volumes in teenagers with first-presentation borderline personality disorder

Andrew M. Chanen[a,b,*], Dennis Velakoulis[c], Kate Carison[a], Karen Gaunson[a], Stephen J. Wood[c,d], Hok Pan Yuen[a], Murat Yücel[a,c], Henry J. Jackson[a,e], Patrick D. McGorry[a,b], Christos Pantelis[c]

Psychiatry Research: Neuroimaging 172 (2009) 155–160
Contents lists available at ScienceDirect
Psychiatry Research: Neuroimaging
journal homepage: www.elsevier.com/locate/psychresns

Anterior cingulate volume in adolescents with first-presentation borderline personality disorder

Sarah Whittle[a,c], Andrew M. Chanen[a,b], Alex Fornito[c], Patrick D. McGorry[a,b], Christos Pantelis[c], Murat Yücel[a,c,*]

[a]ORYGEN Research Centre, Department of Psychiatry, The University of Melbourne, Melbourne, Australia
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Progress in Neuro-Psychopharmacology & Biological Psychiatry 33 (2009) 842–846

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Progress in Neuro-Psychopharmacology & Biological Psychiatry

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Midline brain structures in teenagers with first-presentation borderline personality disorder

Tsutomu Takahashi [a,b,c,*], Andrew M. Chanen [d,e,f], Stephen J. Wood [a], Mark Walterfang [a], Ian H. Harding [a], Murat Yücel [a,d], Kazue Nakamura [b], Patrick D. McGorry [d,e,f], Michio Suzuki [b,c], Dennis Velakoulis [a], Christos Pantelis [a]

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[f] ORYGEN Youth Health Clinical Program, Northwestern Mental Health, Melbourne, Australia

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Brief report

Pituitary volume in teenagers with first-presentation borderline personality disorder

Belinda Garner[a], Andrew M. Chanen[a,b,*], Lisa Phillips[c], Dennis Velakoulis[d], Stephen J. Wood[d,e], Henry J. Jackson[a,c], Christos Pantelis[d], Patrick D. McGorry[a,b]

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Insular cortex volume and impulsivity in teenagers with first-presentation borderline personality disorder

Tsutomu Takahashi [a,b,c,*], Andrew M. Chanen [d,e], Stephen J. Wood [a], Murat Yücel [a,d], Ryoichiro Tanino [b], Michio Suzuki [b,c], Dennis Velakoulis [a], Christos Pantelis [a], Patrick D. McGorry [d,e]

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[e] Orygen Youth Health Clinical Program, Northwestern Mental Health, Melbourne, Australia

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Brief report

An MRI study of pituitary volume and parasuicidal behavior in teenagers with first-presentation borderline personality disorder

Martina Jovev[a], Belinda Garner[a], Lisa Phillips[c], Dennis Velakoulis[d], Stephen J. Wood[d,e], Henry J. Jackson[a,c], Christos Pantelis[d], Patrick D. McGorry[a,b], Andrew M. Chanen[a,b,*]

Structural MRI

Region	Adults	First-presentation adolescents
OFC	↓left	↓right
Cingulate	↓ACC (+/-)	↓left ACC (♀)
Amygdala	↓ (+/-)	No change
Hippocampus	↓ (with trauma)	No change
Insular	↓left (+/-)	No change

Conclusions

- EI currently represents the ‘best bet’ for ‘prevention’
- BPD should be diagnosed & treated when it first presents in young people
- Outcomes for early intervention are broad
- Proof of concept for EI in BPD
- Programs must also measure risk
- EI is also a platform for investigating BPD

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