Psychosis in Young People

Learning Objectives

- Identify differential diagnosis of psychosis.

- Identifying the early red flags of psychosis.
- Assessment and review of prodromal stages of psychosis.
- Outline biomedical investigations for psychosis.
- Outline ongoing management strategies for psychosis in young persons.

Epidemiology

A meta-analysis of 19 population studies described a median prevalence of psychotic symptoms
-17 % among children aged 9 to 12 years had psychotic symptoms
-7.5 % among adolescents aged 13 to 18 years,

indicating that the prevalence of psychosis appears to decrease with age[2]

Epidemiology

- Median prevalence of 5% and incidence of 3% in the general population; between 75% and 90% of psychotic experiences are transitory and disappear with time [1,4].
- Experiencing psychotic symptoms does not always indicate a the presence of a psychotic disorder.
- Psychotic symptoms seem to be part of the continuum of normal experiences,

Differential diagnosis of psychosis.

- Anxiety Disorders-transient phobic visual hallucinations can be associated with stress, can distract from them, less associated distress internally around experience of psychosis.
- Depressive disorders
- Complex PTSD-Borderline personality disorder (Micro- psychotic episodes/pseudo- hallucinations/ hallucinations like experiences-psychotic symptoms of these missions are or more stories circumscribed, fleeting, doubtful)
- Substance induced/influenced psychotic symptoms
- Autism spectrum disorder, intellectual disability- language impairment and expression impairments can be miscontrued as psychotic symptoms
- ADHD stimulant induced psychotic symptoms-very rare

Differential diagnosis of psychosis.

About 3 % of FEP has an organic causes[1,6].

Temporal Lobe epilepsy.
Systemic lupus erythematosus
Paraneoplastic syndromes – NMDA encephalitis
Velocardiofacial syndrome

Common medical conditions associated with possible psychosis in children and adolescents

Autoimmune diseases • Systemic lupus erythematosus • Poststreptococcal acute disseminated encephalomyelitis • Mixed collagen vascular diseases • Paraneoplastic syndromes (eg, NMDA receptor encephalitis) • Multiple sclerosis in childhood
Chromosomal disorders and congenital disorders[a] • Velocardiofacial syndrome (22q11.2 deletion syndrome) • Turner syndrome (XO) • Fragile X syndrome
Drugs of abuse • Amphetamines • Hallucinogens (eg, cannabis, PCP, MDMA, ketamine) • Inhalant abuse • Opiates
Endocrinopathies + electrolyte anomalies • Hyper- and hypoparathyroidism • Hyper- and hypothyroidism • Hypocalcemia/hypoglycemia • Hypomagnesemia/hypophosphatemia

Common medical conditions associated with possible psychosis in children and adolescents

Infections

- Brain abscesses and cysts
- Central nervous system–invasive parasitic infection
- HIV/AIDS
- Syphilis
- Neuroborreliosis (lyme disease)
- Viral encephalitis

Medications

- Stimulants (including modafinil)
- Antidepressants: selective serotonin reuptake inhibitors, bupropion
- Hypnotics: barbiturates, benzodiazepines
- Opiates
- Guanfacine
- Herbal therapies (eg, St. John's wort, ginseng, ma-huang)

Metabolic diseases[a]

Neurologic disorders

- Epilepsy
- Head trauma
- Hydrocephalus
- Brain neoplasms
- Arteriovenous malformations
- Hamartoma (eg, as in tuberous sclerosis)

Neuropsychiatric disorders[a]

- Friedreich's ataxia
- Huntington's disease
- Tuberous sclerosis
- Wilson's disease

Nutritional anomalies

- Magnesium deficiency
- Vitamin A, vitamin D, or vitamin B12 deficiency

ASD and psychosis

- Can be a common comorbidity.
- Features of autism spectrum disorder can be misdiagnosed as psychotic symptoms with difficulties in reading others` intentions resembling paranoia. Difficulties in expression, communication resembling delusion and melt downs resembling disorganisation.
- These alternate activities or presentation may simply be due to different constructs of understanding and language expression.
- Mode of connection

Early onset psychosis

- Distinguishing between diagnostic phenomenology during early phases of psychosis is difficult due to fluidity of acute symptoms, and diagnosis may change over time.

- Young people with ultra high risk(UHR) of psychosis present with a range of non-specific symptoms such as anxiety and sleep disturbance or brief intermitted psychotic symptoms that do not meet threshold for psychosis.

Attenuated Psychosis Syndrome-DSM –V Conditions for further study

A. At least one of the following symptoms is present and is of sufficient severity or frequency to warrant clinical attention:

1. Attenuated delusions.

2. Attenuated hallucinations.

3. Attenuated disorganized speech.

B. Symptom(s) must have been present at least once per week for the past month.

C. Symptom(s) must have begun or worsened in the past year.

D. Symptom(s) is sufficiently distressing and disabling to the individual to warrant clinical attention.

E. Symptom(s) is not better explained by another mental disorder, including a depressive or bipolar disorder with psychotic features, and is not attributable to the physiological effects of a substance or another medical condition.

F. Criteria for any psychotic disorder have never been met.

Transition/Progression

- A recent meta-analysis reported that the legal concept of psychotic disorders in patients for drummers psychotic symptoms seating percent at six months 22% at 12 months.

- In children and adolescents psychotic symptoms are not necessarily a hallmark of additional psychotic disorder .50% of children with major depressive disorders psychotic symptoms were present.

Identifying the early red flags of psychosis.

- Blunted or inappropriate affect, mood swings
- Marked decline in function- change in academic performance , unexpected odd behaviour
- Withdrawing from friends and family/feeling suspicious of others
- Less concern with appearance, clothes or hygiene
- Though form- loosening of associations , Thought blocking
- Thought content- illogical thinking , poverty of thought
- Unusual perceptions, such as visions or hearing voices (or even seeing shadows)
- Change in personality, Feelings of grandiosity (belief he has a superpower, etc)
- Loss of usual interest in activities or of motivation and energy.
- Positive family history in first degree relative

Stress vulnerability hypotheses

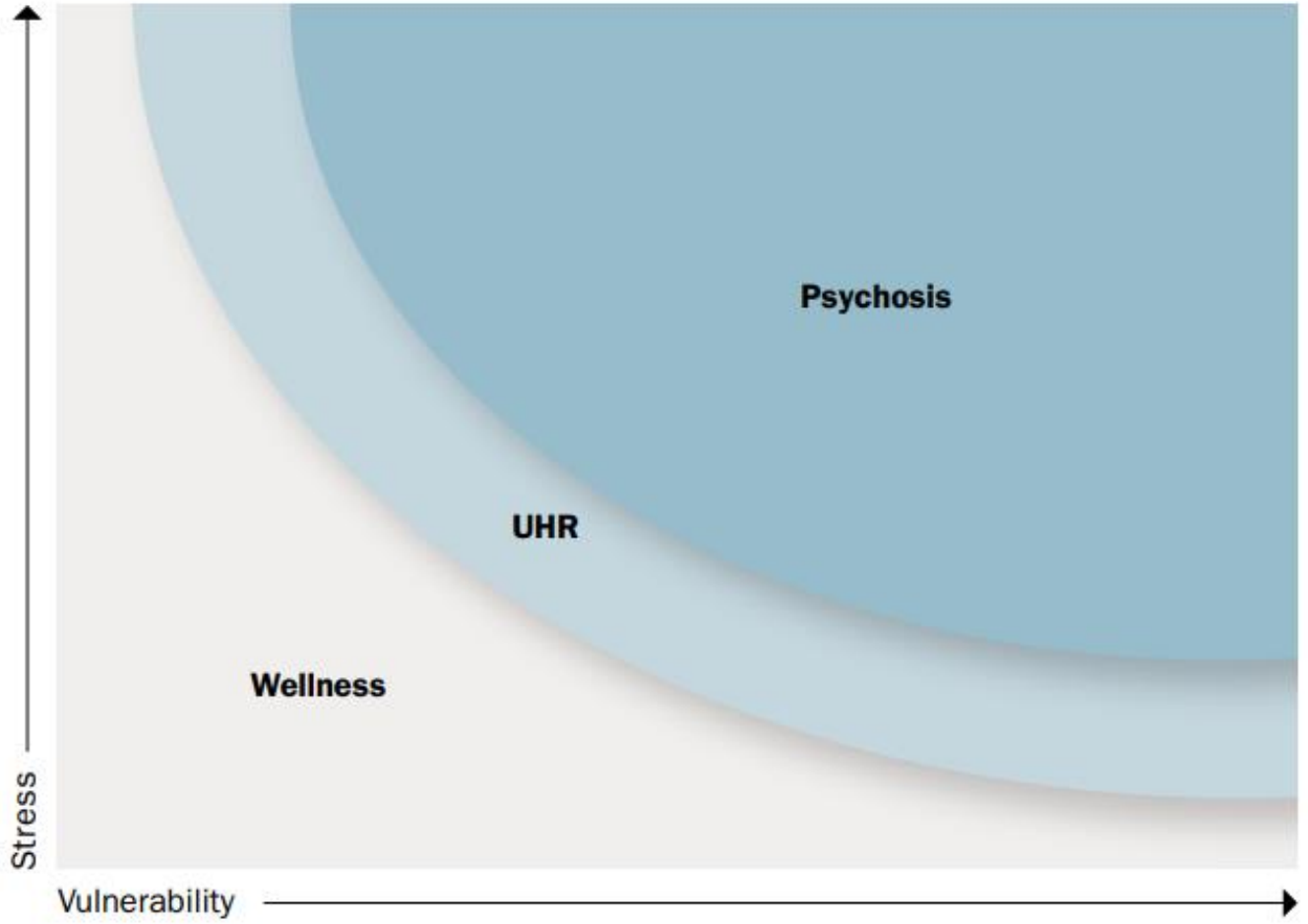


FIGURE 2. **THE PHASES MODEL OF PSYCHOSIS**

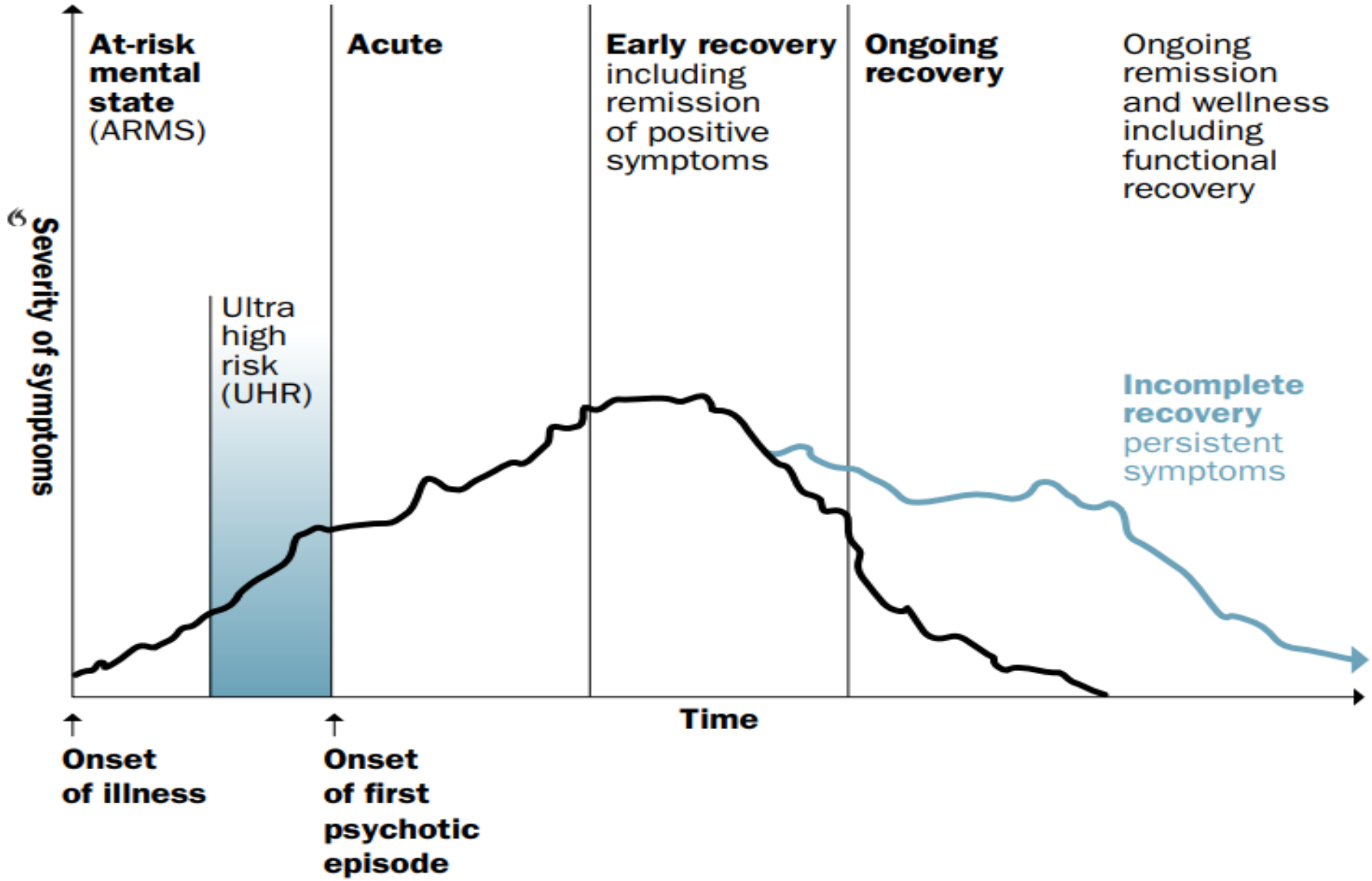


Table 4. **Clinical staging model for psychotic disorders**

Clinical stage	Definition	Definition in the 'phase' model	Target populations for recruitment	Potential interventions
0	Increased risk of psychosis No symptoms currently	Premorbid	First-degree teenage relatives of the person with the disorder	Indicated prevention of FEP, e.g: • Improved mental health literacy • Family education • Drug education • Brief cognitive skills training
1a	Mild or non-specific symptoms of psychosis, including neurocognitive deficits. Mild functional change or decline	Possible prodrome	Screening of teenage populations Referral by: • primary care physicians • school counsellors	Indicated secondary prevention of FEP, e.g: • Formal mental health literacy • Family psychoeducation • CBT • Actively reduce substance use
1b	Ultra high risk of psychosis: Moderate but subthreshold symptoms, with moderate neurocognitive changes and functional decline to caseness or chronic poor functioning (≥ 30% drop in SOFAS in previous 12 months OR < 50 for previous 12 months)	Possible prodrome	Referral by: • educational agencies • primary care physicians • emergency departments • welfare agencies • school and university counsellors	Indicated secondary prevention of FEP, e.g: • Psychoeducation • CBT • Substance use work (cessation or harm-reduction) • Omega-3 fatty acids • Antidepressant agents or mood stabilisers

Clinical stage	Definition	Definition in the 'phase' model	Target populations for recruitment	Potential interventions
2	First episode of psychotic disorder: Full threshold disorder with moderate-severe symptoms, neurocognitive deficits and functional decline (GAF 30–50) Includes acute and early recovery periods	Acute and early recovery	Referral by: • primary care physicians • emergency departments • welfare agencies • specialist care agencies • drug and alcohol services	Early intervention for FEP, e.g: • Psychoeducation • CBT • Substance use work • SGA medication • Antidepressant agents or mood stabilisers • Vocational rehabilitation
3a	Incomplete remission from first episode of care	Late/incomplete recovery	Primary and specialist care services	Early intervention for FEP As for stage 2, but with additional emphasis on medical and psychosocial strategies to achieve remission

Clinical stage	Definition	Definition in the 'phase' model	Target populations for recruitment	Potential interventions
3b	Recurrence or relapse of psychotic disorder which stabilises with treatment, but at a level of GAF, residual symptoms, or neurocognition below the best level achieved following remission from first episode	Late/incomplete recovery	Primary and specialist care services	Early intervention for FEP As for stage 3a, but with additional emphasis on relapse prevention and 'early warning signs' strategies
3c	Multiple relapses, with objective worsening in clinical extent and impact of illness	Late/incomplete recovery	Specialist care services	Early intervention for FEP As for stage 3b, but with emphasis on long-term stabilisation
4	Severe, persistent OR unremitting illness as judged by symptoms, neurocognition and disability criteria	Chronicity	Specialist care services	As for stage 3c, but with emphasis on clozapine, other tertiary treatments, and social participation despite ongoing disability

CBT, cognitive–behavioural therapy; FEP, first episode psychosis; GAF, Global Assessment of Functioning scale; SGA, second-generation antipsychotic; SOFAS, Social and Occupational Functioning Assessment Scale.
Adapted from McGorry et al. 2006 [79].

Biomedical Investigations

- Ht, Wt Basic vitals
- Complete blood count, ESR
- Renal, liver function tests.
- Thyroid function tests.
- Fasting lipids, BSLs
- Toxicology for recreational drugs,
- Prolactin
- Organic causes suspected- physical and neurological examination
- comprehensive metabolic panel, antinuclear antibody, HIV, B12, RPR, serum calcium/ phosphorus, copper/ceruloplasmin and heavy metal levels, and genetic testing)
- Screening for metabolic disorders, storage diseases, infectious diseases, and autoimmune encephalopathies may also be considered under consultation.
- MRI is recommended.
- EEG

Common markers of underlying organic causes

1)Atypical symptoms such as flawed visual hallucinations.

2) Confusion disorientation or delirium.

3) fluctuating symptoms in discrete episodes.

4)History of organic causes-thyroid nutrition and autoimmune conditions head trauma, epilepsy .

5)History of seizures- association to symptoms.

new onset nocturnal bedwetting of recent onset, abnormal movement of at night may be indicative of possible seizure activity.

6)Hallucinations at beginning at sleep onset and awakening may be indicative of narcolepsy.

Assessment

- Mental state examination, as soon as practical – guide of 48 hours .
- Working collaboratively with young people and their families. Strong focus on therapeutic relationship between the clinician and the young person to foster engagement.
- Where there is imminent risk of harm to the young person or to others can be difficult to conduct a comprehensive assessment. At this time then further assessment should be completed in less intimidating environment.
- Assessments take time- no substitute for the same.
- Non-judgemental non-reactive youth friendly language and demeanour including body language.

. Assessment

- Importance of collateral information clinical and personal history. Collecting from parents, school, peer and other stakeholders.
- Assessment of comorbid substances se
- Assessment of comorbid mental health disorder.
- Cognitive assessment-Cognitive deficits predict functional outcome in FEP
- Risk Assessment
- Ongoing process.-
- Serial MSE- assess and document-insight, (aided by an antipsychotic free period based on risks).

Assessment questions- Hallucinations

- Open ended questions , without suggestions
- Quality and characteristics- what does the hallucination sound like? Voice, noise? Positive/negative? Male/ female? Ego syntonic / ego dystonic.
- Location of auditory hallucination.
- Interpretation of the origin- cultural significance
- When do they occur- frequency, association with stress levels, sleep.
- Content – command type, commentary-first person ,second person , third person
- Power and Omnipotence- Does the young person perceive the voice to have complete power over them? Distractibility- able to distract self or not.
- Compliance- what degree does the young person the have to comply with commands or requests.

Assessment Questions- Paranoia

- Mental state can vary in response to different setting and clinicians. Young people may minimise symptoms to avoid treatment or hospital stay.
- Who or what is the focus of paranoia> it is generalised or specific. Where dose it occur, sit specific?
- Degree of conviction- rate as percentage
- Reaction- confrontation or avoidance (Assessment of social judgement and risk)
- Perception of intent of others.

Treatment for only psychosis recommendations for ultrahigh risk phase.

- If substantial psychotic features combined with the onset of disability should be frequently assessed and with review of mental state and safety monitored regularly every 2-4 weeks the context of ongoing support.

- Information about level of risk should be carefully assessed taking into account social educational and cultural factors. Source of information and relationship of informer should be reviewed.

Treatment approach

- CBT has good evidence in preventing or delaying transition to psychosis in the pre-onset phase. Improves social functioning in the pre-onset phase.
- Extensive psychoeducation of all stakeholders invovled, Family support, supportive therapy and case management.
- Antipsychotics should not be normally prescribed unless at least one week of frank psychotic symptoms have been sustained. Positive symptoms statistically associated with risk of self-harm and aggression are exempt.
- Adherence should be monitored explicitly.
- Omega three polyunsaturated fatty acid.

Figure 4. **Pharmacological treatment for first episode non-affective psychosis**

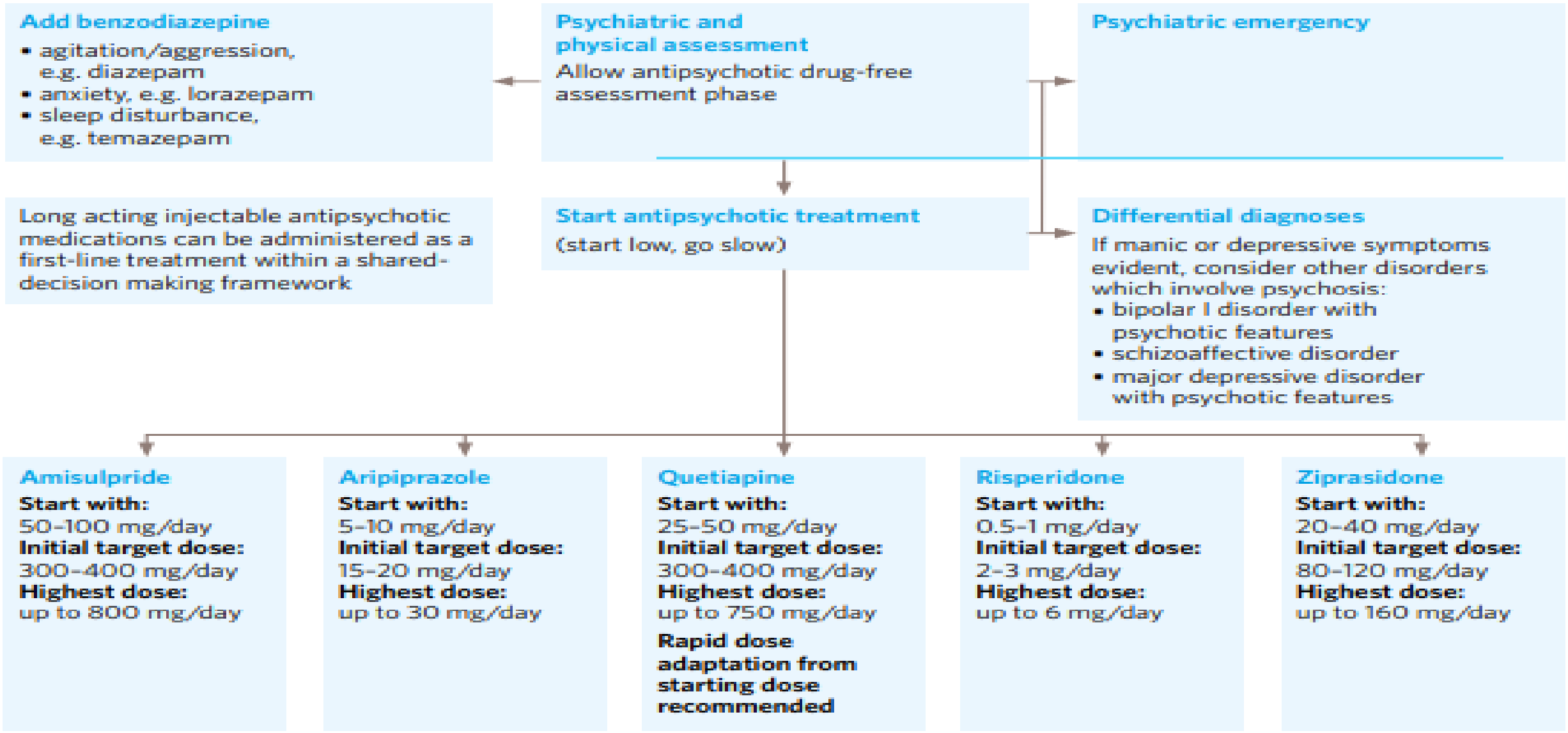
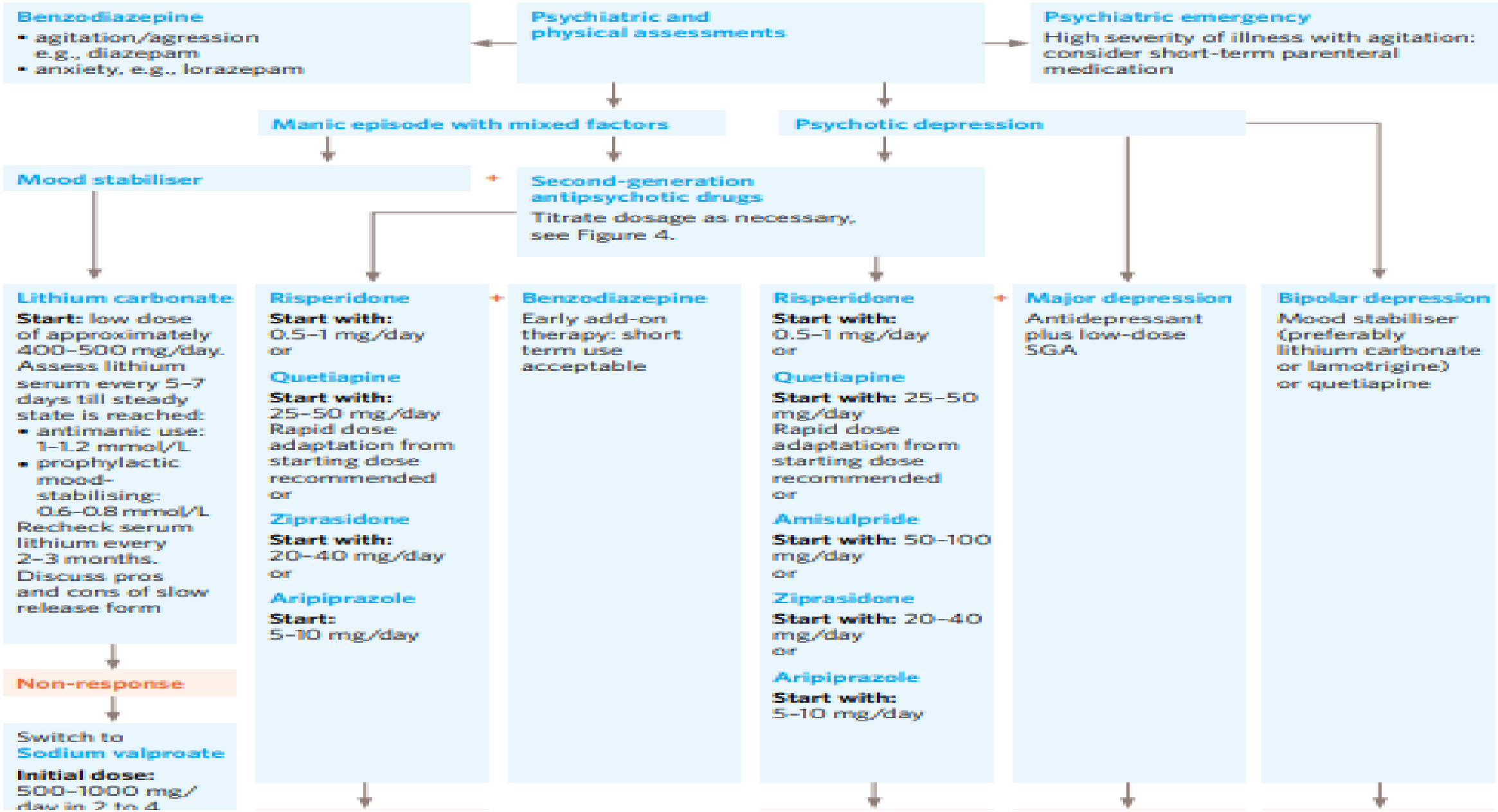
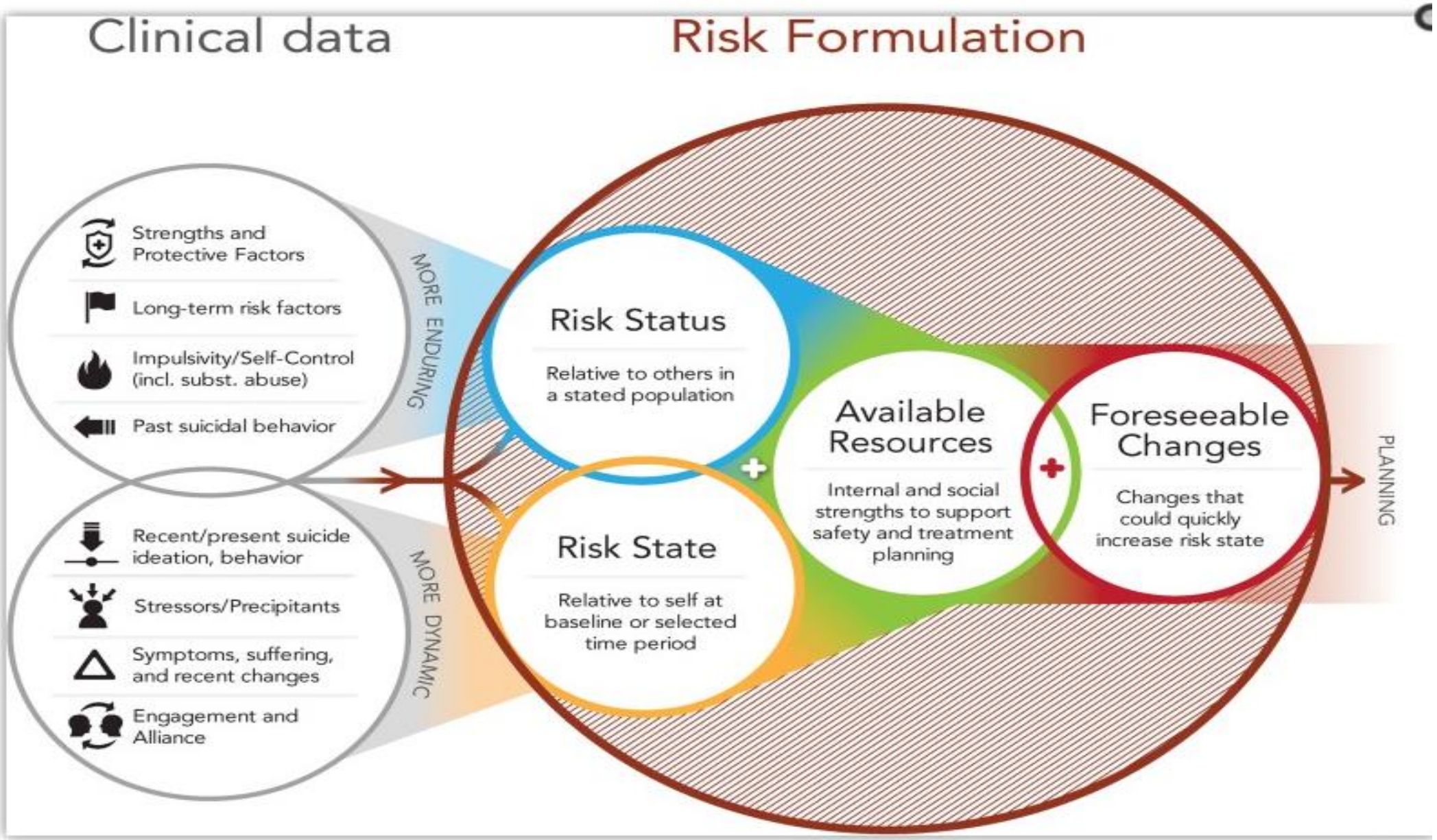


Figure 5. **Pharmacological treatment for first episode affective psychosis**




Clinical data
Risk Formulation
Strengths and Protective Factors
Long-term risk factors
Impulsivity/Self-Control (incl. subst. abuse)
Past suicidal behavior
MORE ENDURING
Recent/present suicide ideation, behavior
Stressors/Precipitants
Symptoms, suffering, and recent changes
Engagement and Alliance
MORE DYNAMIC
Risk Status
Relative to others in a stated population
Risk State
Relative to self at baseline or selected time period
Available Resources
Internal and social strengths to support safety and treatment planning
Foreseeable Changes
Changes that could quickly increase risk state
PLANNING

Ongoing Family GP care

- Family support
- Children and adolescents are thought to be more susceptible than adults to EPSEs
- Routine and as needed physical examination for EPSE.
- Metabolic screening.
- Ongoing brief intervention around healthy life style choices.
- Appropriate vocational placement.
- Integrated psychological interventions such as cognitive behaviour therapy, cognitive remediation therapy, supportive counselling on prevention of psychosis.
- Family education and ongoing therapeutic family interventions-maximum level of support for patient.

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