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Using staged care to provide “Right Care First Time” to people with common affective disorders

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Staged Care

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Staged Care

Abstract

There is ongoing need for innovation in service delivery to ensure mental health services deliver high-quality treatment and prevention in the population. This article proposes the adoption of ‘staged care’ as a population health-oriented service delivery model for packages of specialized services delivered largely in ambulatory care settings for common affective disorders. Staged care integrates measures of clinical need alongside clinical stage and personal choice to stratify individuals into hierarchically arranged service packages. Packages then vary according to the intensity, duration, and mix of treatment options. This paper describes five levels of care in staged care, including the care environment, treatment team, and length of treatment, as well as specifying provisional criteria for assigning individuals to the different levels of care based on current clinical need and clinical stage. Staged care is presented as a model that guides treatment selection and health service delivery to ensure that the quality care aims of right care first time and prevention are achieved while considering optimal use of available resources.

Staged Care

Highlights

- There is ongoing need for innovation in service delivery to ensure mental health services deliver high-quality treatment and prevention.
- Staged care represents a population health-oriented service delivery model by incorporating clinical stage alongside clinical need in allocative decision of care to ensure that the aims of right care first time and prevention are achieved.
- By placing an individual on a continuum from risk to end stage disease, service providers match treatments and preventive interventions to the current and likely course of illness.

Staged Care

Introduction

Most recent reports of global burden of disease indicate that affective disorders are highly prevalent in the general population and have a large negative impact on the lives of affected individuals (1). Affective disorders are associated with increased mortality rates, physical illness, functional impairment, and public service usage, causing significant cost to the individual and health system (2–4). In the last two decades, considerable attention has been given to reforming service delivery to help minimize these impacts (5). However, recent assessments of mental health care around the world suggest there has been limited progress towards achieving the proposed reform objectives in service delivery (6).

In this paper, we propose the adoption of ‘staged care’ as a service innovation to improve the treatment and prevention of affective disorders. This approach incorporates recent developments in clinical staging into a population health-system of integrated care to deliver personalized approaches to treatment and prevention (7). Clinical staging is used alongside other measures of clinical need and personal choice to stratify individuals into hierarchically arranged service packages. Such packages then vary according to the intensity, duration, and mix of treatment options. This article describes the background to staged care development, a staged care model for affective disorders across the lifespan and identifies areas for future development.

Motivating circumstances to staged care development

Staged care was developed against the background of ongoing discussions regarding the quality of mental health care around the world. Initial discussions in the mid 2000’s made recommendations for sweeping system reform (5,8). Mental health care was criticized at the time for being fragmented, poorly coordinated, and lacking focus in addressing individual and

Staged Care

population needs in ways that would deliver optimal health outcomes. Guidelines for reform suggested that mental health services should empower collaboration between service users and providers to achieve high quality care (5). Further, the need for coordinated care across the whole health system was emphasized to provide better integrated care to meet individual and population needs.

Since adoption of some of the key recommendations, countries have introduced integrated healthcare delivery models for service planning and delivery. Guidelines for affective disorders suggest optimal service delivery should be based around ‘stepped care’ (e.g., National Institute for Health and Care Excellence [NICE], 9). Stepped care typically stratifies patients to a low intensity intervention evidenced for the patient’s clinical need, with an option to step up the intensity of intervention for those who do not adequately respond, in order to maximize the use of limited resources (10). Other models have subsequently expanded upon stepped care to include collaborative care approaches to treatment (‘stepped collaborative care’) following evidence that effective management of depression is team-based, including shared decision-making between patients and different service providers to maximize treatment engagement and psychosocial functional outcomes (11). Care managers link primary and community care providers, patients, and mental health specialists to help facilitate integration in consultation and support in managing mental illness, as well as coordinate care with providers to support self-management and delivery of personalized treatments (11).

Fifteen years on, there is however little evidence of effective implementation of integrated mental health systems. For instance, *The Lancet 2018 Commission* (6) on global mental health and sustainable development reported low adoption of integrated service delivery in both high and low-middle income countries warranting additional investment. The authors noted there were ever increasing rates of mental illness, ratings of service quality were

Staged Care

deteriorating, care remain fragmented, and access to treatment was still low. Ongoing deficiencies were argued to have resulted from systems discouraging the development of integrated care networks (e.g., fee-for-service financial structures) and disproportionate resource allocation to treating acute conditions. They argued for an equal emphasis on developing population health-oriented systems of care with a stronger prevention agenda. These assessments were repeated in separate reports across several countries, challenging authorities to put prevention at the center of service delivery to reduce the burden of mental health (12–15).

An important gap to address relates to potential limitations of stepped collaborative care in enacting the prevention agenda. While stepped collaborative care may represent an innovation in mental health service delivery, it appears to have limited capacity in operationalizing prevention at the individual and population level. At the individual-level, for instance, stepped care typically stratifies individuals based on current symptom expression (16). This generally results in individuals being classified into broad categories of current need such as mild, moderate or severe, which ignore individual differences in the patient's clinical profile relevant for optimizing treatment and prevention outcomes (17). Decisions based on current need also fail to support early detection of conditions for which early intervention approaches can be optimal (18,19). Further, such approaches are inconsistent with the current understanding of developmental epidemiology of mental disorders (e.g. age of first onset, pathophysiology, comorbidity) which suggests affective disorders share overlapping features with other conditions (e.g. psychosis, bipolar) in early-phase syndromes (20). These findings should be reflected in service delivery models promoting prevention (21).

Further, decision rules for 'stepping up' intervention are predominantly guided by outcomes of treatment (10,16). This logically leads to reactive clinical decision-making. Moreover, progressive interventions are known to perform the worst with little to no effect on

Staged Care

treatment outcomes for depression (22,23). Rates of stepping up are also low and may therefore delay access to appropriate care (16). Finally, individuals receiving low intensity care options are more likely to not engage or drop out of treatment and/or seek multiple treatment services; thus, paradoxically increasing burden on the health system (16,23). These results suggest the assumption that low-intensity treatments will be enough for most people, and only a few will need a higher-intensity treatment, is not well-supported.

At the population-level, a limited number of individuals are likely to receive quality integrated care via stepped care for it to effectively reduce the burden of disease associated with affective disorders (24). For instance, psychological interventions are generally managed in primary care as the “de facto” mental health care system with specialist physician input reserved for people with severe and persistent mental illness (25). The most evidence-based model of integrated care is therefore only available to people with chronic disorders where treatment is likely to have a recovery rather than prevention orientation (26). Further, utilization of integrated care is limited to those able to seek and engage with treatment meaning groups known to have poor access to services face growing inequity in mental health care (27). Recent recommendations for integrated healthcare implementation advocate for system redesign towards population health-oriented systems of care to provide comprehensive promotive, preventive, and curative health services (12,28). Notable developments in ‘right care first time’ service delivery have emerged to achieve these objectives (29).

In the next section, we present staged care which attempts to incorporate a risk-stratified approach to mental health service delivery (30) that actively optimizes treatment and prevention outcomes at both the individual- and population-level (7). Staged care incorporates recent developments in clinical staging to assimilate information regarding the risk, onset, and trajectory of affective disorders during vulnerable life stages, including predicting their future

Staged Care

course, into service delivery (21). Consequently, staged care augments existing stepped collaborative models by ensuring resources are directed to early detection of affective symptoms and prevention of illness progression (i.e., secondary prevention) to reduce the occurrence and burden of affective disorders. The model presented here expands on the youth stage-based model proposed by Cross and colleagues (31) to include the vulnerable life stages of childhood, youth and adulthood, and older adulthood. Overall, the model provides a preliminary framework of how an evidence base around clinical staging might enhance the capacity of existing service delivery models to include a secondary prevention agenda in mental health care.

Description of the staged care model

Like stepped collaborative care, staged care is an integrated team-based care approach to the treatment of affective disorders with care managers responsible for care coordination of personalized service packages delivered largely in ambulatory care settings. Patients are stratified into hierarchically arranged service packages that vary according to the intensity, duration, and mix of treatment options. However, rather than first selecting a low intensity intervention, staged care aims to provide right care first time to ensure that the primary aims of treatment and secondary prevention are achieved (7). This is done by using a risk-stratified approach (30) to selecting intervention levels by incorporating assessments of clinical stage alongside clinical need to identify emerging risk patients. Risk stratification tools have emerged for managing patients with chronic diseases for organizing treatment and preventive care interventions while efficiently managing limited resources, and preliminary evidence supports its use in mental health (30,32). Clinical staging considers a range of factors, including symptom severity, duration of symptoms, functioning, and previous treatment response into a single prognostic index (21). Thus, any previous history of treatment resistance is included in clinical

Staged Care

decisions at the outset of treatment thus minimizing delays in accessing appropriate care. The hypothetical case in Figure 1 illustrates staged care delivery.

Staged care developments follow recommendations to make clinical staging of mental disorders a priority for improving health care (6). Clinical staging (Table 1) serves as an adjunct to traditional diagnostic systems by additionally placing an individual on a continuum (19). Staging is part of the clinimetric approach to medicine that recognizes heterogeneity in conditions, especially differences in sub-syndromal to recurrent and treatment resistant phases of illness, that is in contrast with the cross-sectional approach to diagnoses (33). Evidence is growing for the utility of staging patients in treatment. For instance, different clinical stages have been shown to predict: stage progression during treatment (34,35); differential treatment attendance, duration and rate of response (18,36); and levels of treatment resistance (37,38). These findings preliminarily argue for the need for stage-appropriate psychological interventions (e.g., sequential model of psychotherapy 39).

Clinical staging also allows segmentation of a population into relative risk segments to organize resources so individuals receive the right level of care they need; not more or less (11). Namely, clinical staging recognizes not all people will suffer chronic affective disorders by distinguishing patients at higher risk (Stage 2 and higher) from those less likely (less than Stage 2) of experiencing recurrent disorders (40). Further, social determinants of mental health (41) are included in Stage 0 to help advance a population health approach to prevention (Table S1 in online supplement), although strategies for primary prevention and health promotion to address these risk factors require further development. Nevertheless, through placing individuals along a continuum of risk, staged care enhances the logic, timing, and focus of treatment and prevention by matching intervention levels to the current and likely course of illness (19,39,42). Efficiencies are gained by preventing adverse health events, such as onset, recurrence, inpatient admission,

Staged Care

and multiple episodes of failed care, which would incur further burden on the health system (43,44).

Table 2 summarizes the five levels of care, including the care environment and treatment team, in staged care. Treatments at lower levels of intensity are primarily managed by referring physicians with care managers assisting with coordination of self-management support, low intensive psychological interventions, and outcome monitoring (45). Use of community resources and prevention services are included at this level to optimize primary prevention outcomes, especially for groups where social, economic, or environmental risks are present (44). Assertive case management and specialized medical or psychological consultation happens within moderate to higher levels of intervention targeting individuals at-risk for the onset of acute or persistent disorders (Stage 1b and higher). Importantly, access to specialist services is recommended at earlier clinical stages (Stage 1b: attenuated syndromes) for which treatments can be maximally effective to prevent illness progression (31). Treatments are coordinated according to shared management plans which include scheduled patient follow-ups and collaborative multidisciplinary service management (46).

Staged care matches the five levels of intervention according to individual multidimensional needs assessed at the outset of treatment (see Table 3; Figure 2)(47). This includes assigning levels of care based on clinical need assessed by symptoms, impairment and risk severity, as well as clinical stage as an additional layer that considers risk of illness progression (19,34). Other psychosocial and comorbid determinants of treatment engagement and outcomes (socio-economic status, social and occupational functioning, physical health, alcohol and substance misuse; referred to as 'illness extension' considerations), as well as patient's preferences, guide treatment personalization (17). Staged care allows for individual values and preferences in treatment planning by layering intervention levels so that patients can

Staged Care

select from lower intensity interventions based on preference (48). Care managers should ensure appropriate length of treatment and frequency of clinical review considering the risk of chronicity of impairment and illness progression associated with higher clinical stages (Stage 1b plus). Research involving youth suggests a 12-month program of clinical care and assertive follow up for those presenting at Stage 1b (36). By contrast, a greater proportion of those at earlier stages achieve functional recovery during the course of care and do so at a faster rate than those at later stages (34,40). At later stages, recovery is expected to be more difficult, thus individuals are recommended to stay connected to care for at least two to five years (19). Continuous review and outcome monitoring using measurement-based systems enables evidence-informed decisions to guide changes in treatment, enabling effective responses to increasing need or charter clearer pathways to discharge from service.

Staged care across the lifespan

Childhood (5-11 years). Epidemiological research indicates that half of all anxiety disorders emerge in childhood, thus intervening in these early years is critical to effective early intervention (50). Multiple causal factors are implicated in childhood-onset problems, including neurobiology and psychological factors, intersecting with parent-child interactions and other setting conditions that affect the family (51). As such, staged care for childhood-onset affective problems considers both current symptom expression (i.e. intensity/ type) and the functional impact of symptoms and risk factors (i.e. child temperamental/ developmental, social/ environmental, family) that contributed to the onset of symptoms in decision of care (52). Staged care ensures that the full spectrum of mental health in childhood is recognized by allocating children with different degrees of need to care, whether this be self/ family directed monitoring and management or specialist, tertiary services that provide face-to-face, multidisciplinary care.

Staged Care

Table 1 outlines the proposed criteria for clinical staging for affective syndromes in children aged 5 to 11 years old. These criteria follow established staging principles (53) but are notably tentative in the absence of specific research on staging in childhood. Symptoms include a range of non-specific (e.g. social difficulties, shyness) to specific internalizing difficulties to ensure that the full spectrum of phenomenology is considered. This is important as traditional diagnostic approaches may struggle to triage children who do not necessarily meet diagnostic criteria for an internalizing disorder. Whether symptoms occur in one or more environments is considered, as this provides clinically useful information about the nature/ extent of difficulties and potential factors underlying these difficulties to appropriately allocate levels of interventions. Assessing daily functioning provides an indication of the functional impact of symptoms, and includes both competencies (i.e. social, school, co-curricular) and self-care (e.g. feeding, dressing). A child who is assigned to Stage 4 is expected to be impacted in both their daily competencies and self-care, whereas children assigned to lower stages (i.e. Stages 1a to 3), may exhibit functional impairment in one of these sub-domains.

It should be noted that unique to assigning levels of care in childhood, clinical need considers parental/ primary caregiver psychological wellbeing and family functioning in addition to symptoms and functional impairment in the child. These additional factors (i.e. parent/ caregiver distress, family functioning) are included as they will have a role in selecting appropriate intervention approaches (e.g. individual, parent-directed or family intervention). Concomitant problems, such as child behavioral problems or parent's substance use and occupational functioning, are considered illness extension factors within the childhood context also used to determine levels of care.

Youth and adults (12-54 years). The criteria developed by Hickie and colleagues (34) for determining clinical stage in youth forms the basis of staged care for youth and adults (Table

Staged Care

1). Criteria for staging in youth have been reported in previous research, thus will not be repeated here (34,35). The clinical staging criteria specified by Hickie and colleagues (34) is supported by research showing internal consistency and graded clinical severity, distress, functional impairments and neuropsychological profiles across stages in youth populations (34,54).

The youth staging criteria is used for adults given the lack of research findings suggesting the onset of affective syndromes beyond those reported in the youth model (50,55). Affective disorders in adulthood are therefore assessed using established youth criteria. Importantly, higher clinical stages recognize the risks that accumulate with increasing recurrence of depressive episodes from adolescence through adulthood (56,57), including psychological, biological, and neurocognitive mechanisms underlying recurrence and chronicity (57,58). Correlates of affective disorders such as physical health, neuropsychological functioning, and alcohol or other substance use (i.e. illness extension) which may predict recurrence of mental illness are also considered using multidimensional assessments in treatment (42). These factors represent potential targets for collaborative intervention for adults. Through personalized service packages, staged care tries to ensure that enough provision is available to address multimorbidity in adulthood.

Older adults (55 years and older)

Applications of clinical staging to older adults is relevant for those presenting with new-onset symptoms, as well as for those presenting with a recurrence, or in the context, of lifelong illness (59). Research shows that the presentation, etiology, and symptom course as well as risk and protective factors in later life are distinct from those of earlier onset affective disorders, highlighting the utility of identifying late-onset depression phenotypes (60). Approximately half of those experiencing major depression in later life do so for the first time (60), begging the question: what causes an older adult to become depressed? It is important to consider the concept

Staged Care

of ‘vascular depression’ which describes a syndrome whereby depression occurs for the first time in later life in association with underlying cerebrovascular disease (61). There is considerable evidence demonstrating associations between vascular risk factors, white matter lesions as observed on neuroimaging and the onset of depression in later life (62). This in turn is associated with distinct neuropsychological profiles including slowed processing speed, poor memory and executive dysfunction (63,64). While treatment may be associated with some improvements, in older adults, these deficits can often persist despite symptom resolution (65).

Research also highlights that late life depression is associated with sleep disturbance, mild cognitive impairment (66), medical comorbidities (67), underlying brain disease (66), and psychosocial factors such as stressful life events (e.g. bereavement, caregiving responsibilities, loss of independence, loneliness/social isolation, and financial difficulties) (60). The proposed clinical staging model for affective disorders occurring in later life (Table 1) assumes that a number of diverse pathophysiological mechanisms, as well as their interactions with the psychosocial context, may underpin mood disturbance in the early clinical stages in later life, likely leading to several distinct trajectories, ranging from a pattern of consistently low symptoms to the evolution of a chronic, unremitting illness characterized by persistent depression (68). Further, the model proposes that even sub-syndromal depressive symptoms impart a longitudinal risk for adverse clinical outcomes (68), and considers relevant phenotypes such as concomitant cognitive impairment (69), genetic contributors (70), and etiological factors such as underlying cerebrovascular disease (71). Such features are not necessarily unique to depressive disorders alone and may in fact confer vulnerability to a range of illness trajectories, particularly other neurodegenerative diseases characterized by depressed mood, motor change and cognitive impairment.

Staged Care

It is highly likely that older adults in the early phases of illness will have mixed symptoms (and syndromes) that range across various diagnostic categories. Consequently, individuals with the same formal diagnosis (e.g. major depressive episode) may be rated as being at different clinical stages due to other concurrent factors such as neuropsychological impairment, evidence of underlying neurobiological change (e.g. extensive white matter change seen on neuroimaging), symptom typology or severity, level of disability or functional decline, or a specific clinical profile indicative of greater severity (risk of harm, need for hospital admission, treatment resistance, psychomotor change, psychotic features).

Issues and future directions

Staged care is presented here as a service innovation to progress the prevention agenda of high-quality care in mental health. The model represents a preliminary framework, with initial support coming from developments in clinical staging of mental disorders. The following points discuss the challenges and suggested priorities for future research, implementation, and evaluation of staged care.

There is a clear need to establish valid criteria for assessing clinical staging across the lifespan. Unpublished empirical validation of the ageing model is underway at the University of Sydney's Brain and Mind Centre. However, this paper represents the first attempt to stage childhood disorders. Furthermore, research is needed to determine whether staging has clinical utility in practice. Specific areas for future empirical research and review include examining reliability in clinical stage assessment, patient characteristics associated with clinical stages, subtypes of illness trajectories, role of clinical stage in treatment processes and outcome, stage-appropriate interventions, and predictors of clinical stage transitions (e.g., 18,35,39,53).

Staged Care

Challenges associated with implementing staged care into practice also warrant attention. Reviews suggest service delivery implementation can vary according to health settings, workforce capacity, and insurance and payment issues (72). However, since staged care is proposed as a population health-oriented system of care, the model seeks to breakdown artificial boundaries by guiding service delivery across the whole system. This entails reorienting systems, structures, and incentives so that the benefits of integrated care extend to the whole population (12,28). The term ambulatory care setting is used conceptually to include all non-hospital health services where staged care is applied across the healthcare spectrum, from services provided by a single clinic with primary and specialist care (e.g., ambulatory care center) to coordination of several clinics delivering different aspects of intervention (73). Research is needed to support the development of such interconnected care systems, as well as common assessment protocols and information sharing facilities that ensure efficient pathways among services (31).

The areas of clinimetrics and staging in mental health require information that is not included in common diagnostic approaches to assessment (33). As such, providers will need to be educated on how to conduct assessments for clinical staging. This relates to knowledge exchange on types of measures of symptoms, functionality, and mental health history used during assessment. In line with this, developing clinical decision support tools using psychometrically-supported measures to stage patients may assist practitioners and be an efficient and time-saving strategy for facilitating the process of triaging patients (74). The InnoWell Platform is an example of new health information technologies supporting assessment, triaging, referral, and shared decision-making in stage-based care (49). Further development of such tools represents an important direction in translating staged care into practice.

Finally, any service reform should include an evaluation of whether it enhances outcomes beyond usual care or other health service models. To this end, frameworks to evaluate staged

Staged Care

care implementation ideally include elements of the service model (access/ intake, assessment, treatment planning, treatment/ intervention, progress monitoring, exit/ referral) assessed against domains of safety and clinical quality domains (including accessibility/ equity, acceptability/ satisfaction, workforce competence/ capability, efficiency/ expenditure/ cost, effectiveness/ outcomes, appropriateness and care continuity/ coordination) (49,75).

Conclusions

This paper presented a model of staged care intended for use in mental health service delivery. Staged care incorporates clinical stage alongside clinical need to triage individuals into hierarchically arranged services according to intensity, type, and duration. The main objective of staged care is to ensure that people receive the right level of care first time such that the primary and secondary objectives of optimizing treatment and prevention outcomes are achieved. Further translational research, including determining steps for system redesign, is needed in evaluating how staged care might be implemented in real-world contexts. Nevertheless, by shifting towards a population health-oriented service delivery model with goals of prevention, it is hoped staged care developments may guide future reform in reducing the burden of disease associated with affective disorders while providing efficient methods for managing limited resources.

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Staged Care

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Staged Care

[Insert figure 1]

Figure 1. Case illustration of staged care delivery of right care first time.

Staged Care

[Insert figure 2]

Figure 2. A model of staged care for common affective disorders across the lifespan.

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Staged Care

Table 1. Clinical staging of common affective disorders for each age group across the lifespan

Stage	Description	Clinical features		
		Childhood (5-11 years)	Youth and adults (12-54 years)	Older adults (55 years +)
0	‘At risk’: No current symptoms	No current internalizing symptoms. No current impact on daily functioning, including competencies (i.e. social, school, co-curricular) and self-care (e.g. feeding, dressing). Presence of a recognized psychosocial risk factor for childhood-onset symptoms†	No current anxiety, depressive or psychotic symptoms. Presence of a recognized psychosocial risk factor for psychotic or severe mood disorder†	No current affective symptoms. Presence of recognised psychosocial risk factor to late-onset affective disorder†
1a	‘Non-specific symptoms’	Non-specific symptoms (e.g. sleep difficulties, social difficulties, behavioral inhibition, shyness, worry). Mild or greater impact on daily functioning	Non-specific symptoms of anxiety or depression. Mild to moderate severity of symptoms. Subjective or objective evidence of mild neuropsychological deficits. Recent or mild impacts of illness on social, educational or occupational functioning	Within the last five years: mild (including sub-syndromal) to moderate anxiety/ depressive symptoms. Over the last 12-months: minimal to mild functional decline. May additionally include evidence of subtle subjective or objective neuropsychological impairment^
1b	‘Attenuated syndromes’	Specific symptoms of an internalising disorder (e.g. anxiety, sadness, somatisation); may or may not meet diagnostic thresholds. Symptoms reported in one or more environment (e.g. home, school, co-curricular). ≥ Mild impact on daily functioning.	Specific symptoms of severe anxiety, moderate depression, brief hypomania or brief psychotic phenomena. Subjective or objective evidence of at least moderate neuropsychological change. Moderate to severe impact of illness on social, education or employment functioning	Within the last five-years: moderate anxiety/ depressive syndrome. Over the last 12-months: at least mild functional impact of illness. May additionally include mild neuropsychological impairment^.
2	‘Discrete disorder’ OR ‘Major syndrome’	Meets criteria for an internalising disorder (anxiety or depressive disorder). Symptoms reported in more than one environment (e.g. home, school, co-curricular). ≥ Moderate impact on daily functioning	Clear episodes of psychotic, manic or severe depressive disorders. Full threshold disorder with moderate-severe symptoms and persistence over time. Typically associated with significant neuropsychological deficits. Illness is clearly having a major impact on social, educational or occupational functioning	Within the last five years: moderate to severe depressive episode (Note, progression to Stage 3 with persistence of ≥ 12 months). Over the last 12-months: evidence of moderately to severe functional decline. May additionally include evidence of progressive or persistent neuropsychological impairment^
3	Recurrent or persistent symptoms	Symptoms of a discrete disorder lasting ≥ two years, with no more than three months of remission. ≥ Moderate, clear and persistent impact on daily functioning. Symptoms not significantly improved after evidence-based psychological and/or pharmacological	Incomplete remission from discrete disorder at 12 months after entry to care following reasonable course of treatment (of at least three months’ duration). Recurrence of discrete disorder after period of complete recovery (having fully recovered for at least	Persistence of severe depressive disorder over last 12 months, characterised by: treatment resistance, possible side effects to physical treatments (Note, progression to Stage 4 with persistence of ≥ 12-months). Recurrence of discrete disorder after period of complete recovery (having fully

Staged Care

		intervention, including a multidisciplinary, family-based treatment approach	three months). Objective evidence of deteriorating neuropsychological function. Illness course is associated with deteriorating social, education or occupational function due to persistence or recurrence	recovered for at least three months). Progressive functional decline characterised by impairment in instrumental activities of daily living due to persistence or recurrence. May additionally include evidence of progressive neuropsychological impairment [^]
4	Severe, persistent and unremitting symptoms	Chronic symptoms lasting \geq five years. Severe, clear and persistent impact on daily functioning, including both competencies (i.e. social, school, co-curricular) and self-care (e.g. feeding, dressing). Symptoms not significantly improved after at least five years of evidence-based psychological and/or pharmacological intervention, including a multidisciplinary, family-based treatment approach	Severe, persistent, and unremitting illness assessed after at least 24 months of engagement with relevant specialized clinical services and provision of a reasonable range of medical, psychological and social interventions. Objective evidence of severe deterioration in neuropsychological function. Evidence of marked deterioration in social, education or occupational function due to persistence or recurrence	Severe depressive disorder, characterised by lack of treatment response, possible side effects to physical treatments, duration \geq two years. Progressive functional decline, characterised by impairment in instrumental activities of daily living, need for carer support, need for nursing home or high-level home care. May additionally include objective evidence of severe deterioration in neuropsychological function [^]

Note. [^]Neuropsychological impairment is typically characterised by executive dysfunction, slowed processing speed, and learning and memory deficits (Naismith et al., 2012); [†]Risk factors associated with criteria for at-risk stages (Stage 0) are provided in Table 1 in supplementary information.

Staged Care

Table 2. Description of levels of care

Level of care	Description	Care environment	Care team
Level 1: Self- or family-directed monitoring and management	Evidence-based digital therapies and other forms of self-help for the individual, and their family/ carer(s)	Online, over the telephone, in the community, and possibly in integrated settings (e.g. schools, workplaces)	Low-intensity workforce with appropriate vocational skills, training, and qualifications. Active coordination with patient's primary or referring physician (e.g. general practitioner)
Level 2: Low intensity services	Services that can be accessed quickly, without the need of formal referral and through a range of modalities (i.e. face-to-face, group, telephone, digital interventions), which typically involve few or short sessions	Online, over the telephone, in the community, and possibly in integrated settings (e.g. schools, workplaces)	Low intensity workforce, as well as psychologists and other appropriately trained and qualified allied health professionals. Active coordination with patient's primary or referring physician (e.g. general practitioner)
Level 3: Moderate intensity services	Structured, frequent and intensive interventions delivered regularly, combined with assertive case management	Community locations (e.g. consulting rooms), outreach to residential environments (e.g. aged care facilities, schools) if appropriate, via telephone/ videoconference (e.g. for people in remote communities), and online (e.g. health professional assisted e-therapies)	Active general practitioner management, including mental health assessment and development of integrated care management plans (e.g., mental health treatment plan). Integrated care involving multidisciplinary team/ agency of specialist physicians and allied health professionals. Possible inclusion of case manager: (i) Child: psychologist, developmental paediatrician, specialist psychiatrist, neuropsychologist, occupational therapist, speech pathologist, dietitian; (ii) Youth: psychologist, developmental paediatrician, specialist psychiatrist, drug and alcohol worker; (iii) Adult: psychologist, psychiatrist, mental health nurse, social worker, drug and alcohol worker, physiotherapist, occupational therapist, dietitian; (iv) Older adults: psychologist, psychiatrist, geriatrician, neuropsychologist, physiotherapist, occupational therapist, dietitian.

Staged Care

Level 4: High intensity services

Intensive intervention that may involve multidisciplinary/ multi-agency support and involvement of family/ carers to provide coordinated care for those more complex needs (e.g. comorbidities, social/ environmental risk factors)

Services in community locations (e.g. consulting rooms), outreach to residential environments (e.g. aged care facilities, schools). Face-to-face services preferred

Level 3 care team, plus case manager

Level 5: Acute and specialist community mental health services

Specialist healthcare facilities (typically state/ territory mental health services)

Face-to-face services in community locations with outreach to the person within their home or other environments (e.g. aged care facility). Specialist inpatient/ residential care in a hospital environment, community based intermediate care, sub-acute unit or crisis respite center

Level 4 care team with higher-tier state/ territory mental health services

Staged Care

Table 3. Assigning levels of care

Level of care	Criteria type	Referral criteria		
		Childhood (5-11 years)	Youth and adults (12-44 years)	Mid-life and older adults (55 years +)
Level 1: Self- or family-directed monitoring and management	Clinical stage	Stage 1a	Stage 1a	Stage 1a
	Clinical need	Mild affective symptoms (mild internalizing symptoms; mild impact on daily functioning) AND Mild parent/family impact (mild or nil parental distress; mild or nil impact on family functioning)	Mild anxiety/ mood/ psychosis symptoms (no risk of harm to self or others; low levels of distress; mild impact on functioning)	Mild depressive symptoms (no risk of harm to self or others; low levels of distress) AND/OR Mild cognitive symptoms (subtle objective neuropsychological impairment and/or subjective or informant rated cognitive decline; mild impact on functioning) AND/OR Recognized risk factor to late-onset depression or cognitive decline
	Other	Preference for self- or family-directed management	Preference for self- or family-directed management	Preference for self- or family-directed management
Level 2: Low intensity services	Clinical stage	Stage 1a	Stage 1a	Clinical Stage 1a
	Clinical need	Mild affective symptoms (mild internalizing symptoms; mild impact on daily functioning) AND Mild parent/family impact (mild or nil parental distress; mild or nil impact on family functioning)	Mild anxiety/ mood/ psychosis symptoms (no risk of harm to self or others; low levels of distress; mild impact on functioning)	Mild depressive symptoms (no risk of harm to self or others; low levels of distress) AND/OR Mild cognitive symptoms (subtle objective neuropsychological impairment and/or subjective or informant rated cognitive decline; mild impact on functioning) AND/OR Recognized risk factor to late-onset depression or cognitive decline

Staged Care

	Other	Preference for self- or family-directed management	Preference for self- or family-directed management	Preference for self- or family-directed management
Level 3: Moderate intensity services	Clinical stage	Stage 1b	Stage 1b	Stage 1b
	Clinical need	Moderate affective symptoms (moderate internalizing symptoms; mild to moderate impact on daily functioning) AND/OR Moderate parent/family impact (moderate parental distress; moderate impact on family functioning)	Moderate anxiety/ mood/ psychosis symptoms (moderate levels of distress; moderate risk or lower of harm to self or others; moderate impact on functioning or lower) OR Severe anxiety/ mood/ psychotic symptoms with mild risk of harm and mild functional impact (severe levels of distress; mild risk or lower of harm to self or others; mild impact on functioning or lower)	Moderate depressive symptoms (moderate levels of distress; moderate risk or lower of harm to self or others; moderate impact on functioning or lower) OR Severe depressive symptoms with mild risk of harm and mild functional impact (severe levels of distress; mild risk or lower of harm to self or others; mild impact on functioning or lower) AND/OR Progressive or persistent cognitive decline
	Other	Moderate impairment in child behavioral problems OR Moderate impairment in parent's substance use or occupational functioning	Mild to moderate illness extension (mild to moderate impairment in physical health, substance use, social connectedness, or occupational functioning)	Mild to moderate illness extension (mild to moderate impairment in physical health, substance use, social connectedness, or occupational functioning)
Level 4: High intensity services	Clinical stage	Stage 2	Stage 2	Stage 2
	Clinical need	Severe affective symptoms (severe internalizing symptoms; moderate to severe impact on daily functioning) AND/OR Moderate to severe	Severe mood/ psychosis symptoms with moderate risk of harm and moderate functional impact (severe levels of distress; moderate risk or lower of harm	Severe depressive symptoms with moderate risk of harm and moderate functional impact (severe levels of distress; moderate risk or lower of harm

Staged Care

		parent/family impact (moderate to severe parental distress; moderate to severe impact on family functioning) AND/OR Moderate risk to the child's physical health (self-injurious behavior, very low weight, other physiological indicators of risk)	to self or others; moderate impact on functioning or lower)	to self or others; moderate and/or progressive impact on functioning) AND/OR Evidence of progressive cognitive decline suggestive of probable early dementia
	Other	Severe impairment in child behavioral problems OR Severe impairment in parent's substance use or occupational functioning	Severe illness extension (severe impairment in physical health, substance use, social connectedness, or occupational functioning)	Severe illness extension (severe impairment in physical health, substance use, social connectedness, or occupational functioning)
Level 5: Acute and specialist community mental health services	Clinical stage	Stage ≥ 3	Stage ≥ 3	Stage ≥ 3
	Clinical need	Severe affective symptoms (severe to very severe internalizing symptoms; severe to very severe impact on daily functioning) AND/OR Severe parent/family impact (severe parental distress; severe impact on family functioning) AND/OR High risk to the child's physical health (self-injurious behavior, very low weight, other physiological indicators of risk)	Severe mood/ psychosis symptoms with high risk of harm and high functional impact (severe levels of distress; high risk of harm to self or others; severe impact on functioning)	Severe depressive symptoms with high risk of harm and high functional impact (severe levels of distress; high risk of harm to self or others; severe and/or progressive impact on functioning) AND/OR Clear diagnosis of dementia (e.g. Alzheimer's Disease, Vascular Dementia, Fronto-temporal Dementia, Dementia with Lewy bodies) AND/OR High or greater risk to older adult's physical health (e.g. frailty, mobility)
	Other	Severe impairment in child behavioral problems OR Severe impairment in parent's substance use or occupational functioning	Severe illness extension (severe impairment in physical health, substance use, social connectedness, or occupational functioning)	Severe illness extension (severe impairment in physical health, substance use, social connectedness, or occupational functioning)