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Personal View

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Early intervention service systems for youth mental health: integrating pluripotentiality, clinical staging, and transdiagnostic lessons from early psychosis

Jai L Shah, Nev Jones, Jim van Os, Patrick D McGorry, Sinan Gülöksüz

Challenges associated with operationalising services for the at-risk mental state for psychosis solely in that same diagnostic silo are increasingly well recognised—namely, the differential risk for psychosis being a function of sampling enrichment strategies, declining transition rates to psychosis, questions regarding the validity of transition as an outcome, and the frequent development of non-psychotic disorders. However, recent epidemiological and clinical research suggests that not all threshold-level psychoses are likely to occur homotypically; early-stage non-psychotic syndromes might exhibit heterotypic shifts to a first episode of psychosis, without an identifiable at-risk mental state. These findings, along with the relevance of outcomes beyond traditional diagnoses or syndromes, have substantive implications for developing next-generation early intervention infrastructures. Beyond the idea of general at-risk clinics for early-stage pluripotential syndromes, we examine how this reality might affect service design, such as the need for close linkage with centres of expertise for threshold-level disorders when transitions to later stages occur, the balance between generic and specific interventions amid the need for person-centred care, and the challenges this reorientation might pose for broader mental health systems.

Introduction

Catalysed by the articulation of a hypothesised critical period of 2–5 years around the onset of a psychotic illness,[1] early intervention efforts in psychosis have historically centred around interlocking aims: reducing treatment delays, providing phase-specific care, and preventing adverse outcomes. That these endeavours have gained rapid momentum, moving from select clinical research programmes[2] to scaled up implementation efforts in a growing number of countries and health systems, is a testament to the collaborative efforts of global leaders.[3,4] Early intervention has also facilitated specific advances, including the identification of factors potentially amenable to intervention, such as cognitive deficits, long durations of untreated psychosis, and vocational disengagement. These advances have themselves generated crucial momentum towards transforming care for a historically stigmatised illness associated with poor long-term outcomes.[5]

In parallel with this success has been the desire to address the upstream portions of the critical period: the opportunity before, rather than just after, onset of psychosis.[6,7] Given that the psychotic prodrome (a period of continuous symptoms before onset of diagnosable first-episode psychosis) can only be defined retrospectively—once a first episode has occurred[8]—new constructs were designed to prospectively examine the pre-psychotic period in greater detail. Thus, investigations into first-episode psychosis were accompanied by the proliferation of research and services for the at-risk mental state (ARMS) during which individuals are at putative "clinical" or "ultra" high risk.[9]

Yet while people experiencing an ARMS have a clearly increased risk for developing first-episode psychosis compared with the general population, the close linkage between first-episode psychosis and ARMS **services** might have propagated the notion that threshold-level psychosis invariably emerges homotypically, from a subthreshold or "light" form of the same phenomena.[10] As is now emerging from strands of epidemiological and clinical research, the idea that incident psychosis might not occur solely via the ARMS has substantive implications for the operation alisation of early intervention frameworks. In this Personal View, we discuss this novel evidence and the lessons it holds for organising and operationalising services aimed at improving all stages of mental health problems in young people aged 12–25 years and beyond.

Silos and their limitations

It is now widely recognised that individuals experiencing an ARMS have a clear need for care:[11] they are typically distressed, functionally impaired, and might actively be seeking help. Nonetheless, subthreshold psychotic syndromes have been historically neglected and prospective patients have been excluded from services because they do not meet traditional categorical diagnostic criteria. Within the community engaged in early intervention in psychosis, this realisation has driven the development of both research-focused and clinical services[12,13] with the dual aim of reducing incidence of future psychosis (transition) and reducing prevalence of presenting or emerging non-psychotic syndromes.[14,15]

Current ARMS criteria include the presence of mild (attenuated) psychotic symptoms, full threshold but brief (limited and intermittent) psychotic symptoms, or familial risk along with substantial functional deterioration.[16,17] Despite debates regarding the effectiveness, relative risks, and benefits of specific treatments,[14,18–20] interventions do delay and potentially

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Prevention and Early Intervention Program for Psychosis (PEPP)-Montreal, Montreal, QC, Canada (J L Shah MD); **ACCESS Open Minds, Douglas Hospital Research Centre, Montreal, QC, Canada** (J L Shah); **Department of Psychiatry, McGill University, Montreal, QC, Canada** (J L Shah); **Department of Psychiatry and Behavioral Neurosciences, Morsani College of Medicine, University of South Florida, Tampa, FL, USA** (N Jones PhD); **Department of Psychiatry, Brain Centre Rudolf Magnus, University Medical Centre Utrecht, Utrecht, Netherlands** (J van Os PhD, S Gülöksüz MD); **Department of Psychiatry and Neuropsychology, School of Mental Health and Neuroscience, Maastricht University Medical Centre, Maastricht, Netherlands** (J van Os); **Department of Psychosis Studies, Institute of Psychiatry, King's College London, London, UK** (J van Os); **Orygen, The National Centre of Excellence in Youth Mental Health, Melbourne, VIC, Australia** (P D McGorry MD); **Centre for Youth Mental Health, University of Melbourne, Melbourne, VIC, Australia** (P D McGorry); **Department of Psychiatry, Yale School of Medicine, New Haven, CT, USA** (S Gülöksüz)

Correspondence to:
Dr Jai L Shah, Department of Psychiatry, McGill University, Montreal, QC H4H 1R3, Canada
jai.shah@mcgill.ca

***Panel 1*: Challenges and their implications for the diagnostically siloed at-risk mental state (ARMS) construct**

- Transition to first-episode psychosis is defined as a unidimensional (quantitative) shift in severity of positive psychotic symptoms, even though first-episode psychosis can emerge through transdiagnostic (qualitative) shifts.
  - A greater appreciation of heterotypic shifts is required to identify the full range of transitions to first-episode psychosis.
- At the population level, mood disorders have a higher population attributable fraction for clinical psychosis than does the ARMS.
  - Strategies for preventing psychosis aimed solely at the ARMS might benefit individuals, but comprehensive approaches should also consider those with mood and anxiety disorders.
- Psychosis risk is multidimensional, with important outcomes in non-psychotic domains: functioning, suicide, cognition, etc.
  - Along with development of psychosis, incidence of new-onset syndromes or comorbidities should be routinely recognised in ARMS services.
- To date, risk enrichment and sampling frames have amplified transition risk.
  - Help-seeking samples across a spectrum of presentations and settings are needed to better understand the true transition rate and trajectories to psychosis.

prevent transition to a full psychotic disorder.[21,22] ARMS services have now expanded across five continents,[23] with neurobiological and clinical research proceeding apace. However, in the midst of this growth the conceptual ties between first-episode psychosis and ARMS might have inadvertently fostered and reinforced an assumption: that psychosis prevention efforts should primarily identify individuals with milder forms of the same presenting (positive psychotic) symptoms that characterise the prototypical form of illness (ie, schizophrenia).[10,24]

Such an assumption is understandable, as it draws on longstanding frameworks for selective or indicated prevention in which those with early but detectable signs or symptoms are targeted to prevent development of a future disease.[25] However, more recently a convergence of data and clinical experience has provided reason to shift this perspective, including high rates of comorbidity alongside the ARMS,[26,27] the conclusion that a majority of patients with ARMS do not go on to develop psychosis,[7,28] and that many of these patients still develop other (non-psychotic) psychiatric disorders.[29,30] Finally, psychosis transition rates appear to have decreased over time, although this observation does not include transition rates for broader disorders.[31,32] A growing number of commentators have thus reconceptualised the ARMS as a pluripotential state for a range of common (mild-to-moderate) and severe disorders.[33,34]

Cumulatively, these findings have been interpreted in a variety of ways. Some, claiming poor predictive validity and ineffectiveness of interventions[35,36]—contentions that have themselves been challenged[22,37]—have called for dismantling ARMS services and instead are in favour of redirecting programming and research to universal prevention.[19] Others have expressed concerns that ARMS services, given uncertainties with respect to transition, risk harming both the self-identity and the social or familial perception of young people who are being labelled as high risk.[20] These criticisms also seek to guard against the pathologisation or over-medicalisation of distress, as well as worries that, in real-world practice (and despite recommendations to minimise use of antipsychotics in this population[38,39]), at-risk designations might lead to the exposure of patients to psychiatric medications that are not truly warranted or of benefit.[40,41] Still more criticise ARMS services on pragmatic grounds, arguing that these services fail to identify large numbers of those experiencing an ARMS, particularly among already disadvantaged groups, such as the vocationally disengaged, migrants, or those without strong family support.[19] Moving from the relatively protected and controlled space of research clinics to scaled-up community implementation, and the expansion of outreach and enrolment efforts to historically disadvantaged and racialised groups (which are currently underrepresented in research ARMS samples[42]), has further amplified these concerns.

Although some of the concerns have merit—the universal versus targeted prevention debate, for example, is longstanding in public health—others, such as poor outreach for underserved groups, could conceivably be improved with additional resources and reorganisation. However, much of this unease holds to the extent that youth with ARMS are primarily identified as at risk for psychotic disorders, which are among the most stigmatised psychiatric conditions and are widely considered among clinicians and the general public to be associated with poor prognosis, dangerousness, volatility, and permanently altered brain function.

Yet data from clinical epidemiology and trajectories of psychopathology have identified a series of further challenges equally fundamental to the diagnostically siloed ARMS construct (panel 1). First, the ARMS framework defines transition as a unidimensional (quantitative) shift in severity of positive psychotic symptoms rather than a categorical (qualitative) shift.[24] This definition contrasts with recent clinical findings that some young people might develop psychosis without an identifiable ARMS, such that threshold-level psychotic disorders can follow non-psychotic syndromes (eg, depression or anxiety).[43–45] As a result, a relatively narrow focus on the ARMS overemphasises positive psychotic symptoms and homotypic transitions to first-episode

psychosis, underappreciating the effect of previous non-psychotic psychopathology and heterotypic shifts across diagnostic silos. From a service perspective, such trajectories might signify a very short and transient ARMS followed quickly by first-episode psychosis, suggesting a rather limited opportunity for ARMS services to undertake early case identification and deliver preventative interventions.

Second, were it possible to prevent the ARMS in individuals who experience it, 87·3% of psychosis incidences in that group could theoretically be avoided.[46] However, the ARMS is less crucial at the population level, in which the incidence of clinical psychosis is largely attributable to non-psychotic mental disorders, with mood disorders yielding the highest population attributable fraction: 36·9% of psychosis incidences could be prevented by avoiding the ARMS in the general population, compared with 66·2% of the incidences of psychosis prevented by avoiding mood disorders in the general population.[46] Although these findings require replication in other epidemiologically representative cohorts, they provide initial evidence for a so-called prevention paradox due to the relatively low prevalence of the ARMS in the general population. Considering that "a large number of people at a small risk may give rise to more cases of disease than the small number who are at high risk,"[47] Rose's paradox explains why an approach that identifies and subsequently intervenes in individuals at high risk (to prevent a first-episode psychosis outcome) might offer a large benefit per individual, but has considerably lower impact in reducing incidence and disease burden at the population level compared with a strategy that targets the population as a whole (figure 1). In order to substantially reduce the risk of full-threshold psychotic disorders, then, any comprehensive prevention strategy cannot focus primarily or exclusively on the ARMS. Instead, the reality of both homotypic and heterotypic transitions to first-episode psychosis means that prevention efforts should include all those with a need for care: both individuals with ARMS (with or without comorbid mood or anxiety features) as well as those with non-psychotic mood, anxiety, or other syndromes.

Third, despite the demonstrated pluripotentiality of the ARMS, subthreshold psychotic experiences and symptoms nonetheless remain important markers of overall psychopathology, severity of illness, and risk for tragic outcomes, such as suicide.[48] For example, the presence of subthreshold psychotic symptoms is an indicator of poor mental health in general;[49–51] those with psychotic experiences or ARMS symptoms are at risk for persistent or more severe non-psychotic states[52,53] and, in the minority who do transition to first-episode psychosis, poorer prognoses.[54] These findings once again underscore the importance of early recognition and intervention during the ARMS. However, they also emphasise the need to consider psychosis risk outcomes as multidimensional (with admixtures of non-psychotic symptoms and outcomes) rather than binary,[34,54] and highlight the need for a more nuanced understanding of trajectories (and a corresponding need for intervention) both within and across traditional diagnostic silos.

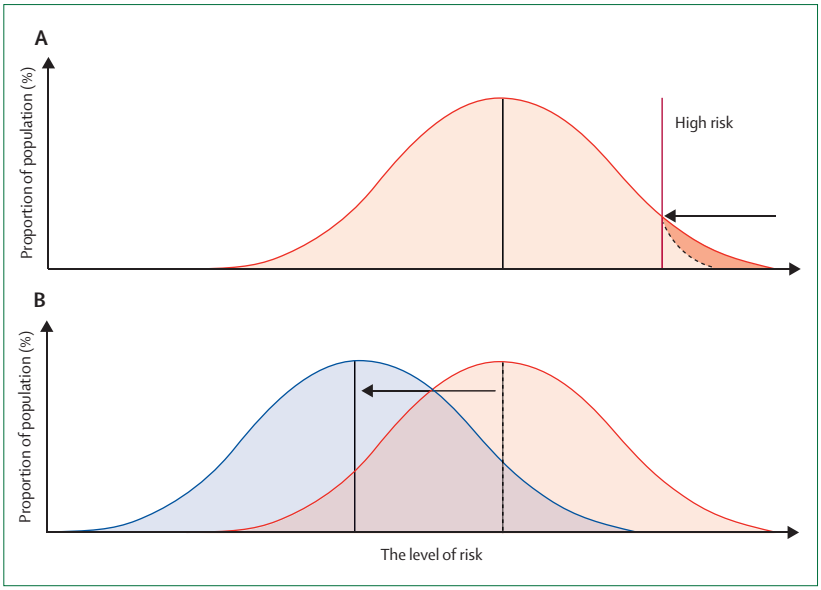

Figure 1: **The prevention paradox**
(A) The high-risk approach that aims to relocate high-risk individuals to normal range. (B) The population strategy that aims to shift the entire distribution of the population.

Finally, ARMS infrastructures have a variable degree of risk enrichment that itself confounds the question of transition to threshold-level psychosis.[24] For example, natural fluctuations exist in the expression of psychotic syndromes, with resulting false-negatives (individuals who had earlier crossed the threshold to first-episode psychosis but were assessed on a day when they were subthreshold). This confound is compounded by the fact that sampling in rarefied academic centres alters transition risk, from 15% in selected samples (close-in settings) to a 1–2% transition rate in general population studies.[55,56] Given these uncertainties, along with the aforementioned prevention paradox,[57] a more accurate accounting of transition rates and trajectories to psychosis can only emerge by identifying help-seeking samples across a full spectrum of early-stage symptoms and presentations.

Moving beyond silos: thinking beyond diagnoses and across syndromes

These salient critiques suggest a need for ongoing evolution, not just regarding models of the risk, the onset, and the early course of mental illness, but also in the resulting structure and function of mental health services.[34,58] In this broader context, the challenge is arguably less about doing away with the ARMS and more about carefully integrating it with other early-stage syndromes, to obtain information that enables

***Panel 2*: Operational principles relevant for youth mental health service settings**

- Although early intervention approaches can be applied across the lifespan, youth (age 12–25 years) represents the period of greatest risk for a range of mental disorders.
- Heterotypy, pluripotentiality, and fluid or shifting symptom sets are the norm rather than the exception in youth.
- Early intervention should treat existing needs, prevent development of new problems, and alleviate adverse outcomes if transitions do occur.
- The particular combinations of social, biological, vocational, and other processes experienced, and the challenges faced by youth require a developmentally aware design and programmatic focus.

the appreciation of shifts and trajectories of illness and to provide optimal support and intervention. With the goal of reducing both incidence and prevalence, psychosis prevention strategies should increasingly recognise heterotypy and pluripotentiality across the full range of early-stage mental illnesses.[15] Additionally, clinical prevention efforts in psychosis should be accompanied by a shift towards service settings in which the broadest possible range of early-stage syndromes and presentations can be recognised and addressed.

Such an approach is consistent with developing population health strategies that include elements of universal, selective, and indicated prevention.[25] Fortunately, many individuals interested in guiding this evolution have also worked towards building service infrastructures for early phases of mental health difficulties in Australia,[59] Ireland,[60] the Netherlands,[61] France,[62] Canada,[63] and elsewhere. In the USA, the Mental Health Services Act finances a comprehensive spectrum of population mental health, from prevention and early intervention, through to secondary prevention, tertiary prevention, and rehabilitation.[64] In all of these models, at least in theory, young people experiencing any form or phase of mental health difficulties during the period of greatest risk for a range of mental disorders (age 12–25 years)[65,66] can obtain services and support, with the aim of reducing illness burden and improving quality of life. Where specialised services are required, referrals are then made to access higher levels of care.

The trend towards broad, diagnostically agnostic services for early-stage mental health conditions is also consistent with conceptual developments aimed at better defining clinical stages themselves.[67] Drawing on evidence from psychosis as well as other areas of health care,[68,69] clinical staging models have revealed that the early course of mental illness is more fluid and protean than recognised by current diagnostic nosology:[58,70,71] stage 1 (subthreshold) syndromes might develop into a range of common or severe stage 2+ (threshold-level) disorders, whereas any traditionally defined stage 2 disorder might have both homotypic and heterotypic trajectories that lead to the disorder.[72,73]

Together, this knowledge implies that case-finding during stage 1 might be better situated alongside a general youth mental health (YMH) infrastructure rather than in ARMS-specific units. This organisation has three functional advantages. First, the YMH infrastructure ensures that all individuals with clinical phenotypes emerging from an ARMS could rapidly be provided with evidence-informed care. Second, if appropriately resourced, carefully designed, and widely utilised, a general YMH infrastructure permits any early-stage presentation (ARMS or otherwise) that develops into first-episode psychosis or another stage 2 condition to be efficiently connected to relevant services. Finally, diagnostically agnostic early-stage YMH services located in youth-friendly settings are well placed to reduce stigma and thereby improve engagement, especially compared with scenarios in which an ARMS service is embedded within other psychosis services.

Implications for service settings

Acknowledging these operational principles (panel 2) provides an opportunity to consider how YMH service infrastructures can evolve to best serve those with emerging severe mental illnesses.[74,75] Rather than developing separate services for each diagnosis-specific risk syndrome, a single YMH service for those aged 12–25 years that integrates a pluripotential and broadly defined ARMS, with a focus on clinical needs, could act as the ideal entry point for all help-seeking youth.[33,34,76] At a minimum, the service should incorporate close monitoring and non-specific interventions, along with rapid transition to evidence-informed treatment packages in the event that later stages of illness develop. However, determining which forms of service structures could optimise transitions requires reflection. As shown in figure 2, varying service models might differentially manage stage 1 to stage 2 transitions. Although our examples are frequently drawn from the experience of early psychosis service development, they might be illustrative across YMH presentations and conditions.

First, subthreshold-level and threshold-level presentations could explicitly change service settings. In this case, general YMH services would serve as a frequent access point, but would be closely linked with distinct specialist centres if or when threshold-level disorders were reached (figure 2A). Specialist centres could be identified across a range of currently recognised threshold-level diagnoses, including anxiety, depression, bipolar disorder, psychosis, and borderline personality disorder. This approach would address concerns about inconsistent definitions of thresholds across disorders most relevant to YMH, but would neglect the reality of fluid symptom sets and heterotypic continuity that

regularly results in individuals acquiring multiple overlapping and comorbid diagnoses over time.[72,77]

Second, specialist services for threshold-level disorders, such as first-episode psychosis, could be deployed within generic YMH infrastructures (figure 2B). This approach is already being used in some jurisdictions,[78] providing multiple levels of interventions and care in a single service setting and reducing concerns about some diagnostic constructs being privileged over others. Such integration might also enable the provision of interventions across diagnostic silos (eg, dialectical behavioural therapy could be made available alongside antipsychotic prescription for individuals with a first-episode psychosis who also manifest self-harming behaviour).

It should be acknowledged, though, that the previously mentioned configurations continue to orient treatment selection and service organisation around traditional diagnostic silos. Paradoxically, this approach risks reifying the very nosology that is seen as insufficient and reproducing the same structures that are widely recognised as limiting progress. Are there alternative frameworks? If so, what might service structures and interfaces organised around them look like? **A third option would be to design next-generation infrastructures around individual needs and outcomes beyond traditional diagnostic categories (figure 2C). Instead, combinations of syndromic, neurobiological, social, functional, stage-based, or existential needs that cut across diagnoses (eg, suicidality or functional impair-ment, such as a Social and Occupational Functioning Assessment Scale [known as SOFAS] score of <40 or >60) could drive changes in the content, intensity or level of care received.79 Such an approach would not merely replicate the approach of early psychosis across more diagnostic areas, but would move beyond diagnosis by eschewing the notion of diagnostic categories altogether. This approach would still recognise the fluid, protean nature of early-stage syndromes and their variable trajectories and pluri potentiality, without being defined solely by them.**

Any transition to this third approach would undoubtedly be complex, involving a matrix (with syndromes as well as the other variables mentioned) to determine which combinations of features are relevant at which stages.[58,80] Under such a framework, some widely deployed interventions would continue to have value, whereas others that are closely linked to specific diagnoses might need to be scaled back or de-implemented[81,82] to re-orient clinicians and interventions towards more salient features. Over time, the framework would shift the focus to identifying trajectories and delivering active ingredients of interventions across a range of syndromes in an accessible YMH service located at the level of primary and community care.

The relative strengths and weaknesses of the described models might, in part, be predictable on the basis of what

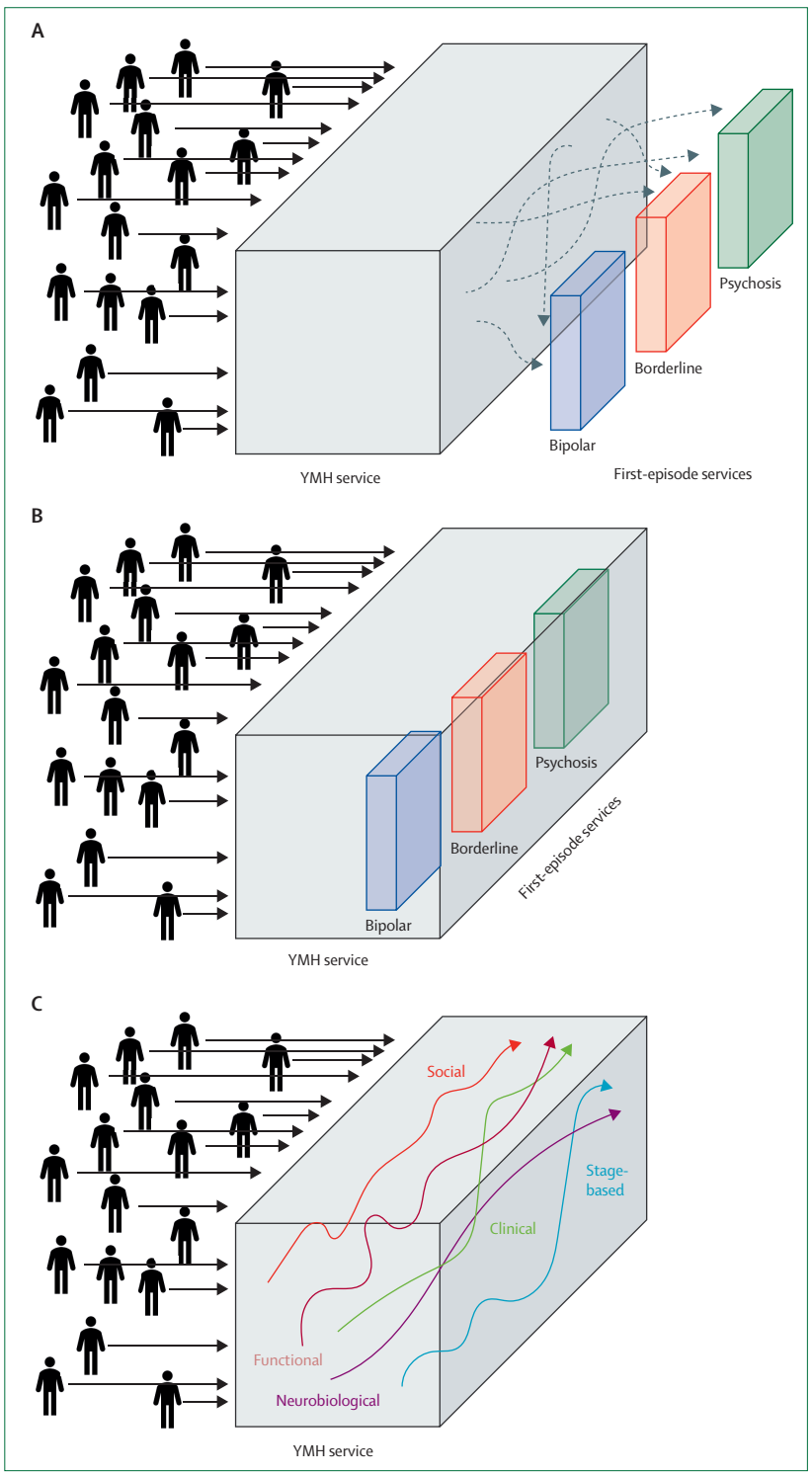

Figure 2: **Potential multi-stage service configurations, in increasing levels of integration**
(A) Separated, diagnostically organised services for early-stage mental health problems and illnesses. (B) Integrated but still diagnostically organised services for early-stage mental health problems and illnesses. (C) Integrated early-stage services for mental health problems and illnesses that are organised around individual needs and outcomes. YMH=youth mental health.

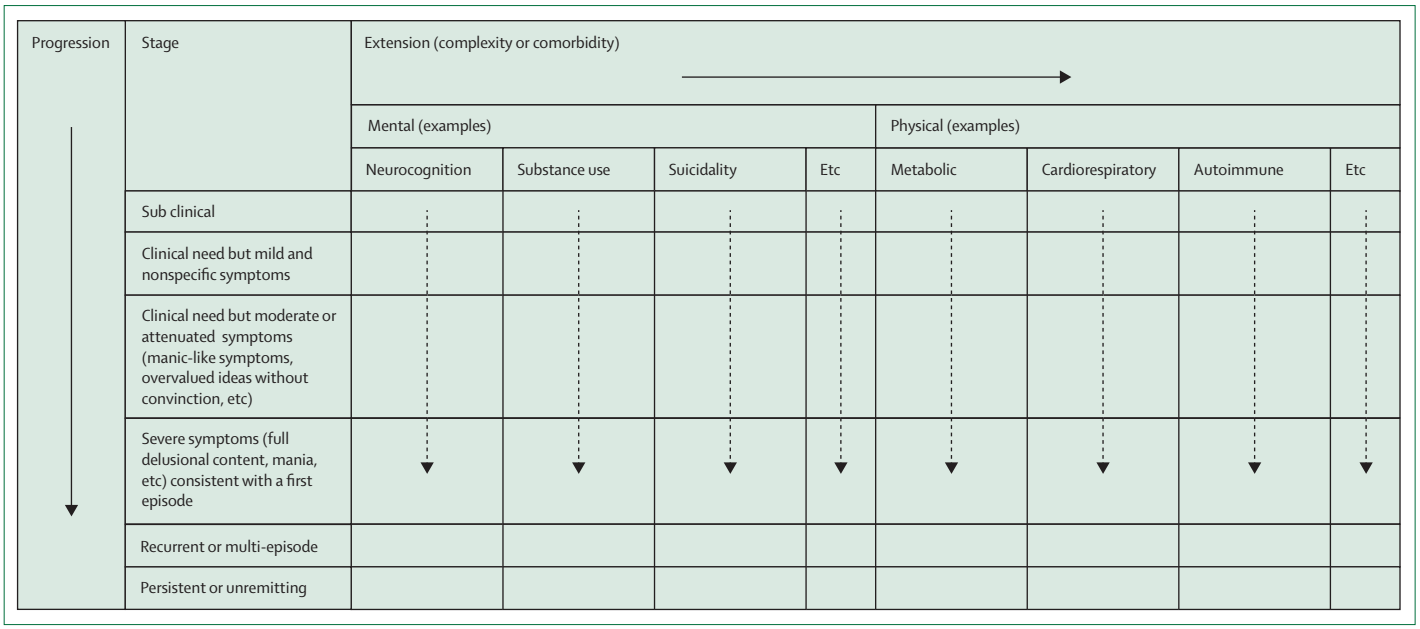

Figure 3: **A revised multidimensional staging model for youth mental health**
Reproduced from Shah and colleagues[58] by permission of John Wiley and Sons. At present, stage definitions are primarily based on symptoms and functioning. Over time, additional streams of data (and their combinations) might become relevant to defining specific cut-points between clinical stages and to guiding treatment selection.

is known about existing structures, funding, and feasibility of adaptation, and these factors will vary across local realities and health service contexts. However, important empirical gaps remain. For instance, the extent to which salient individual-level and service-level outcomes are inferior, similar, or improved under less integrated models (in which first-episode psychosis and other stage 2 services remain distinct from or within YMH services; figure 2A), compared with models with greater integration (figure 2B, C), remains unknown. The first two models (figure 2A, B) have the advantage of leveraging hard-earned clinical experience with current syndromes, which is often linked to seasoned clinical decision making. To take one example: in early intervention contexts, existing stage-based definitions of the ARMS (stage 1b), or first-onset mania or psychosis (stage 2), do not just represent syndromes with a clear increase in functional impairment with accompanying need for care, but have already guided well evidenced shifts in treatment selection and structured multicomponent intervention packages. By contrast, a transsyndromic focus on multidimensional trajectories that are agnostic to DSM and ICD diagnoses but cut across major psychiatric syndromes (figure 2C) has yet to organise widespread decision making. Still, over time the accumulation of knowledge regarding which combinations of syndromic, neurobiological, cognitive, social, functional, and other variables are relevant to predicting trajectories and outcomes might come to iteratively redefine cut-points and boundaries between stages (figure 3), and to optimising treatment selection.[58]

Transsyndromic (as opposed to transdiagnostic) approaches also imply that future treatment frameworks might vary from current-day best practice, in a manner to be person centred rather than service centred.[83] As one example, the emergence of a process such as new-onset circadian disturbance, which has relevance across traditionally defined mood and anxiety-type syndromes, might inform risk stratification and treatment selection; similarly, knowledge of likely response to interventions might in the future alter recommended treatment pathways for particular subgroups. A trajectory-based orientation (with particular sensitivity for shifts and emerging phenomena) could have further benefits, such as alerting non-specialist clinicians to the need to review cases when new symptoms or processes appear. This approach holds the potential to reduce demonstrated sources of treatment delays that emerge within mental health services, such as clinician inertia.[84]

Implications for systems of care

Needless to say, debates around the pros, cons, barriers, and facilitators of such options must situate them in context. Regardless of the model chosen, the service design and development should include the perspectives of service users and their carers from its earliest planning. The model should be informed by—among other things—the needs of those seeking or referred to care in ARMS services, their evolution over time, and stakeholder perspectives regarding how and where care should be received.[85] Although multi-stakeholder involvement has gained momentum in platform development and research in early psychosis and YMH, the interface between next-generation YMH services and specialty care for severe mental illness represents a test case and an

opportunity to show how the perspectives of young people can be even more deeply integrated into infrastructure and system design. For their part, service systems should also be aware that the model of help-seeking and consenting individuals does not represent many young people. For an array of reasons, including histories of settlement, colonisation, and slavery (which have engendered multi-generational distrust), and childhood trajectories involving multi-system involvement, including coercive or court-ordered interventions, youth at the highest risk of poor long-term outcomes are often the least likely to actively seek treatment even for relatively low-level distress.[86,87] The extent to which service structures designed explicitly for help-seeking youth can meet the needs of youth who are not seeking help is at best unclear; at worst, such systems might not meet the needs of those individuals at all. These patterns therefore raise substantial social, racial, and other equity concerns that require sustained, explicit attention.

How might next-generation YMH services fit within an overall system of mental health care? Beyond novel definitions and criteria for service entry, moving away from diagnostically driven models of care will require both vertical integration (across levels of need) as well as horizontal integration (across professionals and professions). In both cases, this shift will demand substantial investments in training, staffing, and resourcing, despite the challenges inherent to reconfiguring care delivery in systems where traditional boundaries of expertise tend to be well guarded. Future workforces might be organised around a central (case manager-type) clinician whose skillset is oriented less towards specific interventions or clinical phenotypes and more towards building relationships, delivering transsyndromic psychosocial interventions (eg, supportive therapy and vocational support), and facilitating connections to a range of resources.[88] This individual could accompany the patient over multiple stages of their care journey, with adjuncts of ancillary staff, such as psychologists or psychiatrists, occupational therapists, cognitive remediation specialists, physical health specialists, and peers, supported by recovery colleges.

Implementing structural and functional changes of the scale and scope mentioned in the proposed models is a daunting task: this implementation requires not just a system with sufficient resources and planning, but perhaps one with widespread or even near-universal access to care. To ensure optimal reach and lower barriers to access, YMH services aimed at early-stage needs would need to be located at the level of broad primary and community care, offering a range of youth-relevant supports but avoiding being seen as necessarily medical in orientation (to reduce stigma).[76] As part of primary or community care systems, early-stage services should also interface with other nodes (including general practitioners and post-secondary or school-based interventions) to ensure seamless transitions, and with established pathways to secondary levels of care when needed. In these settings, early-stage conditions might benefit from non-specific interventions that are known to be relevant across currently defined syndromes. However, it is reasonable to expect that specific interventions will eventually be needed for defined subgroups, or at higher stages of illness and need.

Both nonspecificity and specificity should be seen as valuable and complementary, regardless of which of the three described models is adopted. Person-centred care for those with early-stage syndromes should, by definition, have the capacity to evolve, whereas later stage conditions might need more intensive and persistent interventions: each setting will, therefore, require its own kinds of clinical expertise. Furthermore, there will probably be challenges in blending syndrome-specific interventions (especially in later stages) with transsyndromic care that is effective at early and later stages, such as cognitive-behavioural therapy and individual placement and support. Nonetheless, although defining the points at which specific interventions should be deployed for particular subgroups remains important, the fluidity in problem areas or trajectories of need experienced by youth strongly suggests that the pathways between intervention packages or levels of care should be far more permeable than at present.

Given the youth-specific nature of the proposed programming, we have primarily discussed the major mental illnesses that have their peak onset between the ages of 12 years and 25 years. However, there is a need to consider additional youth-onset syndromes that have been less frequently integrated into YMH programming, such as eating disorders, borderline syndromes, trauma-related syndromes, or conditions like autism spectrum disorder and attention-deficit hyperactivity disorder that might present in childhood but subsequently affect mental health during the youth years. Similarly, disorders that typically emerge during youth (such as depression or psychosis) might still emerge in middle adulthood, and transsyndromic and early intervention approaches might well be relevant to the needs of older adults. However, YMH-oriented programming is unlikely to serve the needs of middle or older adults, which highlights the need for conversations regarding the optimal service needs of these other groups.

A YMH transformation will undoubtedly require changes to how and at what scale mental health services and systems are financed. A growth mindset is essential for this type of reform, which highlights the serious under-resourcing of all areas of mental health care and is needed to allay concerns about redirecting or removing resources from an already overstretched system, for individuals with early-stage and more non-specific needs and for those with complex and persistent needs. Unlike with

first-episode psychosis services, which were originally criticised for siphoning energetic clinicians, momentum, and resources from a continually underfunded system,[89] thereby pitting generalist and specialist services against each other, the new enthusiasm for pluripotential early-stage syndromes should be accompanied by examinations of the relative strengths and weaknesses of various service configuration models, as well as dedicated resources for early-stage and late-stage needs. This approach might result in increased net costs for the system as a whole, with greater funding for more intensive interventions at advanced stages; adequate resourcing will be crucial to ensuring that any reconfiguration of services fosters connections across the entire system, rather than strengthening some areas at the expense of others. Here, there is much to learn from other non-communicable diseases, such as cancer and cardiovascular disease, in which false dichotomies (such as early diagnosis *vs* palliative care) do not compete against each other. If enacted thoughtfully, a continuum of YMH treatment offerings might encourage and permit opportunities for individuals to seek and present for care early on—including those who have until now rejected, mistrusted, or disengaged with services—while also reducing transitions to later stages.

Models are unlikely to thrive or be sustainable over the long term if they take a one-size-fits-all approach.[63] For example, it might be achievable to have a range of generalist and specialist clinicians (each with varying skill sets) in urban centres, but the same mixture might be more challenging in sparsely populated rural areas given the availability of professionals and the volume of service users. The use of technology could offer solutions, whereby a pool of clinicians can be made available to all sites using videoconferencing and telepsychiatry; any adaptations would need to attend to concerns regarding equity and access within a system of care.

Finally, any reconfiguration of services towards greater sensitivity for early-stage presentations needs to take into account that the high prevalence of diagnosable mental disorder (at an estimated 20% annually, which is higher if subthreshold states are included[90]) might present challenges to the capacity of traditional service models unless the enhanced primary care models we have described are constructed at the interface with the community. Given the increasing inclusion of early stages in such models, large proportions of the population will require support and services at one time or another. If the majority of presentations are at earlier stages and require less resource-intensive interventions (including those that can be delivered online to large numbers of individuals in parallel), this circumstance might over time substantially delay or reduce the need for progression to later stages. However, the more intensive interventions of such models at stage 2 or later are still likely to rely on one-to-one clinician-to-client frameworks, and the formal funding and organisational structures that enable them.[91] These traditional approaches should be joined by novel and newly configured modalities, including technology and e-community solutions, user-rated self-management tools, and peer and citizen support.

Conclusion

Given its scope and potential for scale, integrating the promise of stage-based frameworks into YMH service planning has great potential and utility. A YMH-specific reconfiguration of mental health services—one that moves beyond diagnoses and recognises syndromes along with other features—will require considerable restructuring and a substantial commitment from funders that addresses the needs of individuals at all levels of care. Although achieving this reconfiguration will require sustained commitment and advocacy, it is not too early to consider implications for service design and implementation, impact on equity-seeking groups, and the potential and challenges for services and broader mental health systems.

Contributors

JLS and SG conceptualised the manuscript. JLS wrote the original draft with input from SG. NJ, JvO, and PDM made suggestions regarding later versions of the manuscript. All authors have read and agreed to the final version.

Declaration of interests

PDM has been granted patents for the prevention and treatment of psychotic disorders using omega-3 polyunsaturated fatty acids in Australia, the USA, and Canada (AU 2015203289, 2017; US 9884034, 2018; US 10314805, 2019; and CA 2773031, 2021), and a further pending application (US 20190321320). PDM is Director of the Board of Australia's Youth Mental Health Foundation (headspace) and Executive Director of Orygen, Australia's National Centre of Excellence in Youth Mental Health. JvO is involved in a Dutch national mental health reform programme. All other authors declare no competing interests.

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