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Bringing Clinical Staging to Youth Mental Health
From Concept to Operationalization (and Back Again)

Jai L. Shah, MD, FRCPC

Although there is widespread agreement that current classification systems in psychiatry are insufficient for identifying illness and timely intervention,[1,2] this is particularly problematic for mental health conditions experienced by young people. Existing categorical diagnoses tend to reflect and reify the well-established, chronic syndromes that receive treatment during adulthood,[3] long after their onset—which typically occurs in youth.[4] Among other things, this stands antithetical to the principles and objectives of early intervention paradigms.

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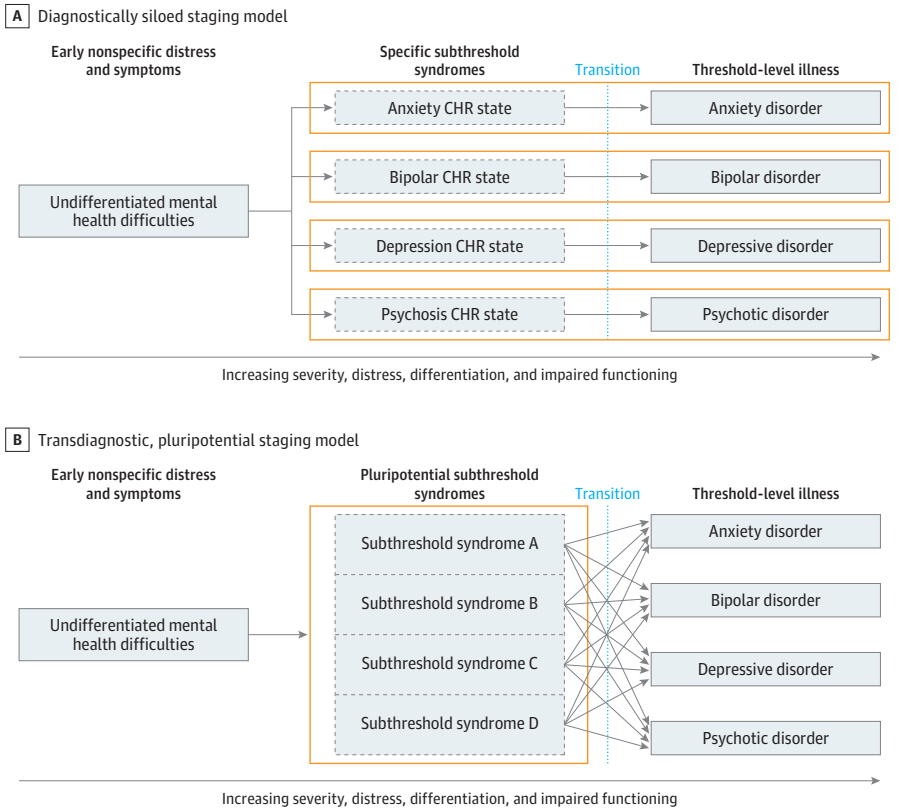
That the early course of mental illness in young people is more protean and ill-defined than the relatively stable presentations seen in middle age[5] has a number of implications. For example, the clinical features of early-phase syndromes may initially be overlapping and undifferentiated, with admixtures of nonspecific symptoms, such as anxiety, depression, sleep disturbance, substance misuse, and others. At times, the evolution of syndromes may involve shifts across diagnostic boundaries.[6] This means that individuals observed repeatedly during the development of a severe mental illness can acquire multiple diagnoses over time, which is sometimes perceived as (artifactual) comorbidity[7] rather than the reality of heterotypic continuity.[8] Conceptual frameworks and service systems need reform to reflect these realities. However, developing an alternative classification and treatment framework that better appreciates the risk, onset, and trajectory of mental disorders in youth, including predicting their future course, is no small feat.

These realizations have motivated efforts over the past decade and more to port clinical staging from other areas of medicine into psychiatry, especially in youth mental health (YMH). Existing staging models aim to locate individuals at points along a continuum of illness based on a combination of symptoms, neurocognition, and functioning.[9,10] However, assigning stage by simply adding dimensionality to current symptom sets or traditional categories (**Figure**, A) may not appreciate more complex phenomena, such as the fluctuating features, heterotypy, and impairment frequently seen in youth. Instead, developing a comprehensive, pluripotential, transdiagnostic staging model necessitates at the very least indexing the full breadth of clinical presentations across putative stages, including transitions between diagnostic silos (Figure, B).

This combination of elements provides conceptual scaffolding for understanding the continuum of early clinical presentations in help-seeking young people. Yet initial data on transdiagnostic clinical staging in actual YMH service infrastructures have only recently been reported,[11] and a critical assumption underlying staging remains untested: that earlier stages have decreased risk of progression to a later stage. In this issue of *JAMA Psychiatry*, Iorfino et al[12] leverage data from a multiyear naturalistic cohort study that operationalizes this framework and tests the assumption of differential risk of progression while also examining key sociodemographic and clinical predictors of transitions. In their model, transitions between stages are represented not only by progression of individual symptoms and functioning but also by the development of "distinct features,"[12] such as psychomotor changes

Figure. Clinical Staging Models in Youth Mental Health



A, A diagnostically siloed staging model focused on symptoms and functioning that leaves little room for transdiagnostic shifts. B, A transdiagnostic, pluripotential staging model in which variable subthreshold symptoms may overlap but give rise to a range of end-stage disorders. CHR indicates clinical high risk.

or delusional ideation. They report 2 key findings: that earlier stages are associated with younger ages and that when the full spectrum of presentations is collected and observed, the likelihood of transition to full-threshold (stage 2) disorders is substantially higher in individuals initially assigned to stage 1b (subthreshold syndromes with moderate-severe decline in functioning) than to stage 1a (with nonspecific symptoms and only mild-moderate decline in functioning).

Since those who transitioned to stage 2 disorders were engaged in care for substantially longer than those who did not, it is plausible that the transition rates and associated predictors would converge if the latter group were observed for an equivalent period. Notwithstanding this, it is intriguing that the predictors of transition to full-threshold disorders do not conform to diagnostic silos; some predictors, such as psychotic-like experiences and circadian disturbance, appear to be risk factors for development of full-threshold disorders as a whole, not just primary psychotic or mood ones, respectively. Conversely, transitions from nonspecific (stage 1a) to subthreshold (stage 1b) syndromes are predicted not only by symptoms indicative of greater complexity but also by features such as social or occupational dysfunction and self-harm. This raises the possibility that interventions aimed at addressing or reducing these factors may be an effective strategy to reduce transition risk.

But even a full-spectrum, pluripotential, transdiagnostic model of early stages, such as that depicted in Figure, B, is unlikely to capture all necessary aspects of clinical staging. Since staging remains nascent in psychiatry, the study by Iorfino et al[12] also prompts reflection on how to advance both its concept and operationalization. First, it raises the question of whether stages and the boundaries between them should be defined primarily based on symptoms and functioning, with their arbitrary thresholds—or whether these definitions could be augmented by capturing stepwise changes in additional variables, such as neurocognition or biomarkers,[13] that in turn predict differential outcomes (and may therefore be relevant for treatment selection). Second, in the absence of agreed and objective markers of stage or illness, distinguishing between stages in clinical settings requires some degree of interpretation and therefore experience with its application and evaluation. This may be challenging to replicate across diverse health systems and contexts. Finally, building on these findings will to a significant extent depend on how YMH services are themselves designed and delivered: staging will benefit from capturing the full breadth of clinical presentations and populations, which means that services should have low barriers to access regardless of diagnostic status, multiple intake points for help-seekers at all stages, including via primary and specialist programming, and naturalistic samples (rather than narrowly recruited research participants) observed through the course of transdiagnostic care. As the authors indicate, this approach comes with barriers, such as imperfect data completion, dependence on indirect measures and data extraction

from clinical records, and irregular follow-ups, but also carries a number of benefits.

Given its promise to locate individuals along a developmentally informed continuum of illness, clinical staging in YMH holds the potential to unlock substantial advances in our understandings of illness trajectories and associated treatment selection. The work by Iorfino et al[12] to initially validate a key assumption underpinning staging should now direct attention toward articulating the definitions and boundaries of clinical stages and how these can be collaboratively understood, studied, and operationalized across settings and contexts. Whether staging ultimately makes a mark on YMH will depend on precisely this iterative feedback between concept and operationalization, supported by deep, enduring partnerships between researchers, clinicians, health planners, and young people themselves.

ARTICLE INFORMATION

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