

# Psychosis Risk Syndrome and *DSM-5*: Time for a Dimensional Approach to At-Risk Mental States?

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## Abstract

The development of formal, empirically grounded methods for assessing At-Risk Mental States (ARMS) is becoming prominent, especially in light of the eventual inclusion of a pertinent “Psychosis risk syndrome” category in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*. Indeed, the phenomenology of risk syndromes for psychosis is complex, nuanced and clinically overlapping with multifarious transitory mental states. Supplementing current prodromal/Ultra-High Risk (UHR) criteria with a dimensional psychopathological approach would favor a rational mapping of emergent needs in ARMS help seekers and provide a more fine-grained reference framework for patient-centered risk stratification and intervention.

**Key Words:** Psychosis, Prodrome, Phenomenology

## Psychosis Risk Syndrome and *DSM-5*: Time for a Dimensional Psychopathology of At-Risk Mental States?

The ongoing debate on the potential inclusion of a “Psychosis Risk” diagnostic class in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*

(1, 2), testifies to the extent of an impending paradigm shift in the area of early identification of psychosis. This shift, which is conferring momentum to a renewed approach to youth mental health, is catalysed by the introduction of the prospective concept of At-Risk Mental States (ARMS) (3-5). Briefly, ARMS designates a psychopathological “probabilistic” condition of increased risk for the development of a psychotic episode, substantially homologous to what impaired glucose tolerance means for the development of Type 2 diabetes. This construct is especially valuable for shared decision making, psychoeducation and clinical-therapeutic profiling, as it provides a nondeterministic clinical-conceptual framework to address subthreshold conditions in help-seeking populations (6).

## ARMS as a Prospective Concept and a Clinical Tool

The concept of ARMS is strategic in several ways. First, it offers a framework to recapture different syndromal (or subsyndromal) states of undefined diagnostic value (in the sense of compatibility with *DSM/ICD* categories) emphasize-

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### Clinical Implications

Early identification of psychosis is one of the fields where the direct link between clinical practice and research development is tangibly leading to the evolution of thinking with a clear translational commitment (5, 23). The ARMS concept provides a clinically based framework to identify (and meaningfully interconnect) subthreshold features that could be indicative of heightened vulnerability for psychosis. This is essential not only to recognize insidious presentations, but also as a starting point to optimize a rational, evidence-based approach to early secondary prevention (that is, intervention in help-seeking individuals at the very beginning of their symptomatic and functional impairment). Indeed, available diagnostic systems (i.e., *ICD-10* and *DSM-IV*) do not provide a sufficient formal structure for adequately describing the precursor stages of psychotic episodes (22, 23). In this respect, recently developed research criteria (i.e., prodromal/UHR) constitute an important advance. Supplementing such criteria with a dimensional approach would promote even further progress. Clinicians, indeed, would benefit from more comprehensive and fine-grained tools to address and interpret the varied phenomenology of candidate prepsychotic phases. Obviously, this is a prerequisite for mapping the psychopathological trajectories of help-seeking at-risk populations, developing personalized interventions and timing stepwise support to pre-empt disability (23, 24). Finally, clarifying the core psychopathological domains of the ARMS would also help at-risk subjects to make sense of the painful experiences that are thwarting their well-being, leaving potential room for targeted psychoeducation and supportive interventions.

ing the risk of imminent development of psychotic symptoms as a key clinical feature to be evaluated.

Second, it suggests that we are dealing with a dynamic process, whose clinical specificity goes beyond the mere cross-sectional aggregation of symptoms (7).

Third, the notion of ARMS is meaningful in the context of a clinical understanding of the individual, psychological vulnerability to psychosis: it can help account for the heterogeneity of effects of environmental, biographical (e.g., trauma) and developmental stressors, as well as for personal coping resources.

Finally, it offers a more realistic view of the putative “psychotic prodrome,” and thus de-emphasizes the undesirable over-deterministic implications (e.g., that of an inevitable progression toward higher severity conditions) associated with the common use of the term “prodrome” in clinical medicine (4-6, 8).

### Categorical Operationalization of the ARMS: A Synthetic Overview of the Ultra-High Risk Paradigm

Within the framework of a “multiple-gate screening” strategy (i.e., adopting sequential decisional filters based on articulated, stepwise, clinical-care pathways for help-seeking adolescents), the Personal Assessment and Crisis Evaluation (PACE) clinic in Melbourne has developed and validated a set of criteria (so-called Ultra-High Risk [UHR] criteria) in order to maximize the positive predictive value of a subset of ARMS (4, 6, 8, 9). Specifically, those ARMS which are at imminent risk of development into a first-episode psychotic disorder.

These criteria (2, 3, 6, 8, 10) are based on a combination of trait and state risk factors, and apply to adolescents

and young adults (aged between 14 and 30 years) who are referred for specialist mental healthcare. The three UHR conditions are: 1) *Attenuated Psychotic Symptoms* (i.e., having experienced subthreshold, attenuated positive psychotic symptoms such as hallucinations, delusions and/or thought disorder during the past year); 2) *Brief Limited Intermittent Psychotic Symptoms* (i.e., having experienced episodes of frank psychotic symptoms, which spontaneously abated in less than one week); and, 3) *Trait Vulnerability and Functional Decline* (i.e., significant decline in functioning during the past year together with a personal history of schizotypal personality disorder or a first-degree family history of a psychotic disorder).

Subjects fulfilling those Ultra-High Risk (UHR) criteria have substantial rates of conversion to psychosis over a year (4, 6, 8). These results have been replicated internationally, providing support for the validity of the UHR criteria (2, 10-12). Indeed, although transition rates vary greatly across the sites (possibly also reflecting heterogeneity in referral pathways), the rate of psychosis among UHR subjects is two to three orders of magnitude higher (i.e., about 30% within 1 to 2 years) than in the same at-risk age group in the general population (13).

### Paving the Way for Person-Centered Risk-Stratification: Clinical Rationale for a Dimensional Model of ARMS

Subthreshold positive psychotic symptoms are central in current prodromal/UHR criteria. However, they are just one of the potential subclinical psychopathological domains associated with the biopsychosocial impairment in help-seeking youths at putative risk for psychosis (14). Indeed, due to the dynamic, progressive nature of symptom develop-

ment, the subject experiencing a prepsychotic phase could profoundly interfere in his own self-understanding and, likewise, be unable or reluctant to communicate the ongoing change taking place in his experiential field (15-18). Such change might not be expressed primarily in articulated psychotic symptoms, and could rather be embedded in deep feelings of demoralization and pessimism, pervasive dissatisfaction, interpersonal withdrawal or precipitous decline in functioning, varieties of behavioral enactments (including pseudo-borderline impulsivity), diffused anxiety, mood swings and irritability, or enduring, lowered tolerance to daily activities (11, 14, 18-20). Crucially, also subtle feelings of perplexity, reduced cognitive proficiency and loss of spontaneous, vital immersion in the world, could constellate these phases, thus severely reducing the subjects' coping skills and expressive capacity. This is the case for Basic Symptoms (i.e., nonpsychotic anomalies of subjective experience of thought, volition, affect, body and psychomotricity), which have been shown to improve the characterization of individual risk in terms of magnitude and time when combined with ARMS criteria (21).

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However, particularly in real world clinical settings, the adequate identification of putative prepsychotic changes remains insidious due to the peculiar developmental features of adolescence: a phase in which age-related psychological and sociorelational reorganizations become prominent (3, 22).

Hence, even prior to a possible inclusion in *DSM-5*, the continuous efforts in developing and refining formal, empirically grounded methods for assessing ARMS remain fundamental.

In this context, the development of dimensional frameworks for structuring psychopathology in ARMS help-seekers might be a promising avenue both to counter the challenge of unspecificity and to support a rational mapping of emergent needs.

This is already possible since the available instruments (such as the Comprehensive Assessment of At-Risk Mental States [CAARMS][6] and the Structured Interview for Pro-

dromal Syndromes [SIPS] [10]) rate positive, negative and general symptoms along a scale, using specific cut-offs on positive symptoms to define the prodromal/UHR status. Therefore, the information could be used dimensionally to track latent components of underlying psychopathology and—potentially—expanded to assess other symptom areas of relevance (such as prodromal anomalous subjective experiences [e.g., Basic Symptoms] [18]).

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Such a dimensional approach can provide a useful, complementary way to map and conceptualize subclinical presentations, enriching the categorical definitions provided by prodromal/UHR criteria. Indeed, whereas prodromal/UHR criteria are based on the “presence/absence” of certain features (e.g., perceptual aberrations), dimensional approaches define the degree (i.e., “how much?”) to which a particular feature is present, as well as other relevant features, such as associated distress, coping and insight. Clearly, the clinical potential for capturing complex, nuanced presentations is amplified.

Furthermore, a dimensional approach would offer a more realistic and comprehensive grasp of other key symptom domains (e.g., cognitive-attentional disturbances, impaired tolerance to normal stress, dysphoria and mood lability, interpersonal withdrawal, impulsive behavioral enactments) associated with emerging disability in help-seeking youths.

This is necessary in order to develop new interventions and disentangle the underlying components of the clinical vulnerability challenging the dogma of psychosis as a dichotomized, all-or-nothing condition. Most importantly, this might improve the resolution of available prediction models, allow a more robust discernment of core symptom domains for therapeutic support and, ultimately, have an enriching impact on clinical care pathways (most of which are shaped on the basis of *DSM-IV* or *ICD-10* diagnostic allocation).

## Conclusions

Early identification of psychosis is one of the fields where the direct link between clinical practice and research

development is tangibly leading to the evolution of thinking with a clear translational commitment (5, 23).

The ARMS concept provides a clinically based framework to identify (and meaningfully interconnect) subthreshold features that could be indicative of heightened vulnerability for psychosis. This is essential not only to recognize insidious presentations, but also as a starting point to optimize a rational, evidence-based approach to early secondary prevention (that is, intervention in help-seeking individuals at the very beginning of their symptomatic and functional impairment). Indeed, available diagnostic systems (i.e., *ICD-10* and *DSM-IV*) do not provide a sufficient formal structure for adequately describing the precursor stages of psychotic episodes (22, 23). In this respect, recently developed research criteria (i.e., prodromal/UHR) constitute an important advance. Supplementing such criteria with a dimensional approach would promote even further progress. Clinicians, indeed, would benefit from more comprehensive and fine-grained tools to address and interpret the varied phenomenology of candidate prepsychotic phases. Obviously, this is a prerequisite for mapping the psychopathological trajectories of help-seeking at-risk populations, developing personalized interventions and timing stepwise support to pre-empt disability (23, 24). Finally, clarifying the core psychopathological domains of the ARMS would also help at-risk subjects to make sense of the painful experiences that are thwarting their well-being, leaving potential room for targeted psychoeducation and supportive interventions.

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