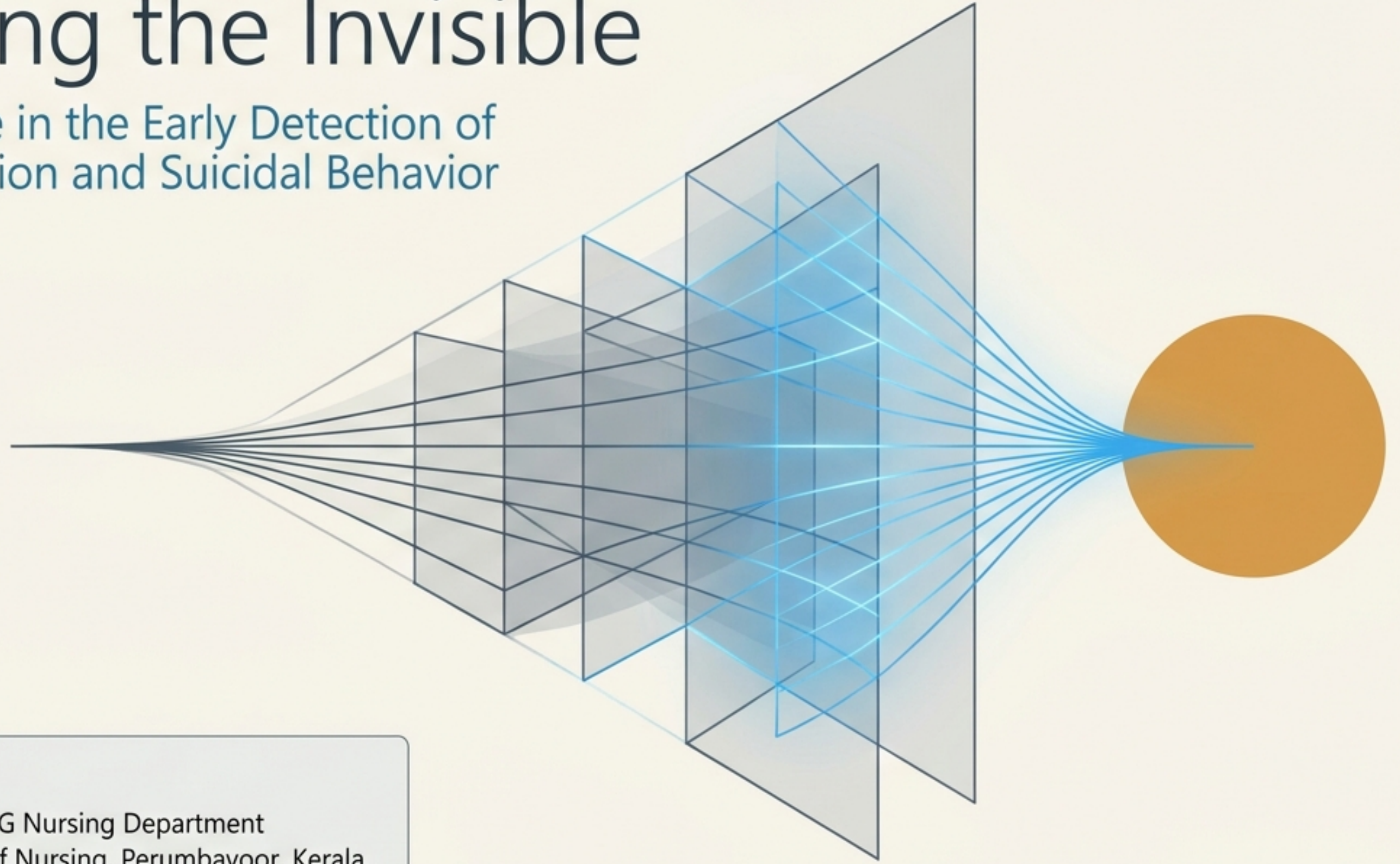


Illuminating the Invisible

Artificial Intelligence in the Early Detection of Adolescent Depression and Suicidal Behavior



Prof. Mereena Kuriakose

Vice Principal & Ph.D. Scholar, OBG Nursing Department
Indira Gandhi Memorial College of Nursing, Perumbavoor, Kerala
Malwanchal University, Indore, MP

<https://coauthor.in/>

The Detection Gap in Adolescent Mental Health



Global Burden

Depression affects 13–20% of adolescents globally.

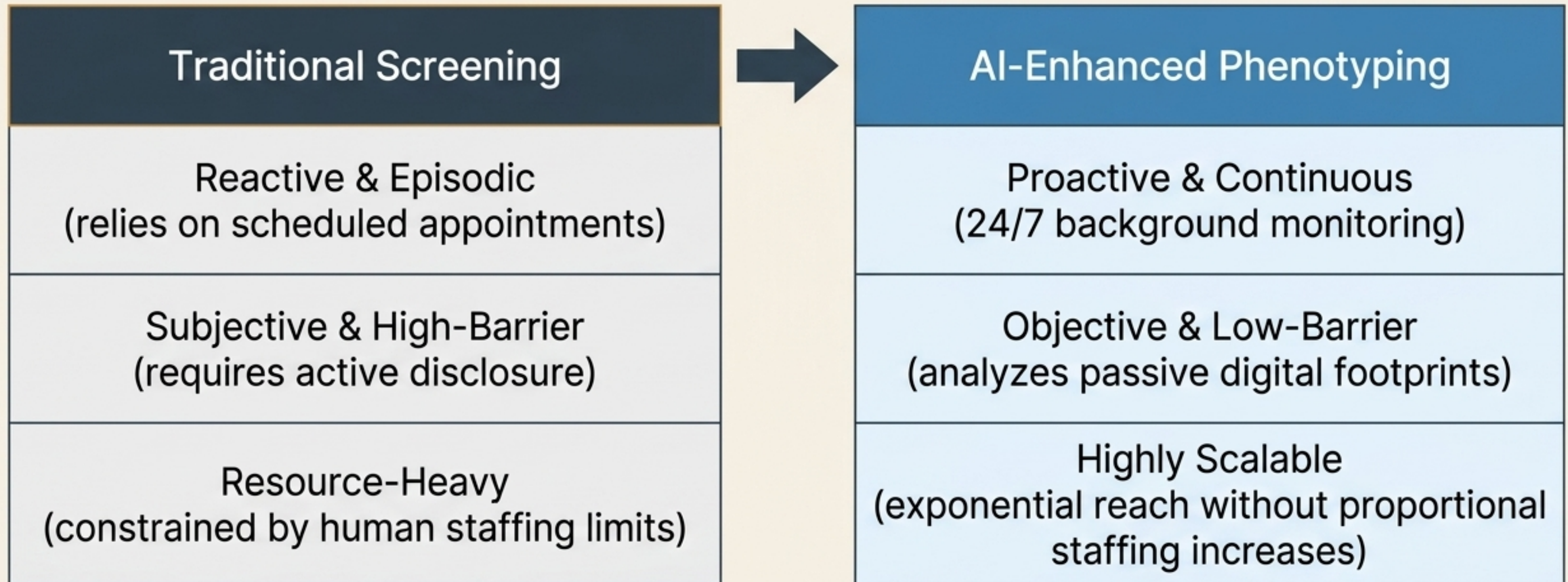
Mortality

Suicide is a leading cause of death for ages 15–29.

The Barriers

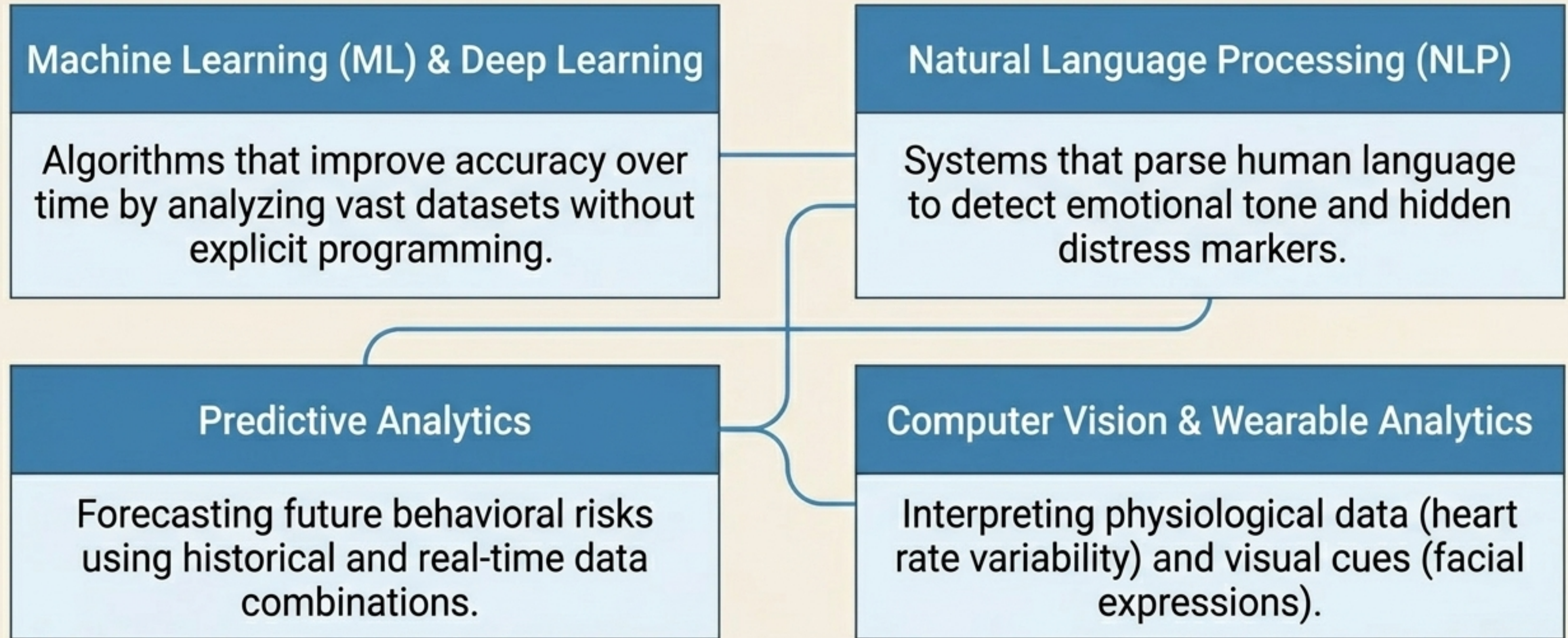
Underreporting, Social Stigma, Resource Scarcity.

A Paradigm Shift in Psychiatric Triage



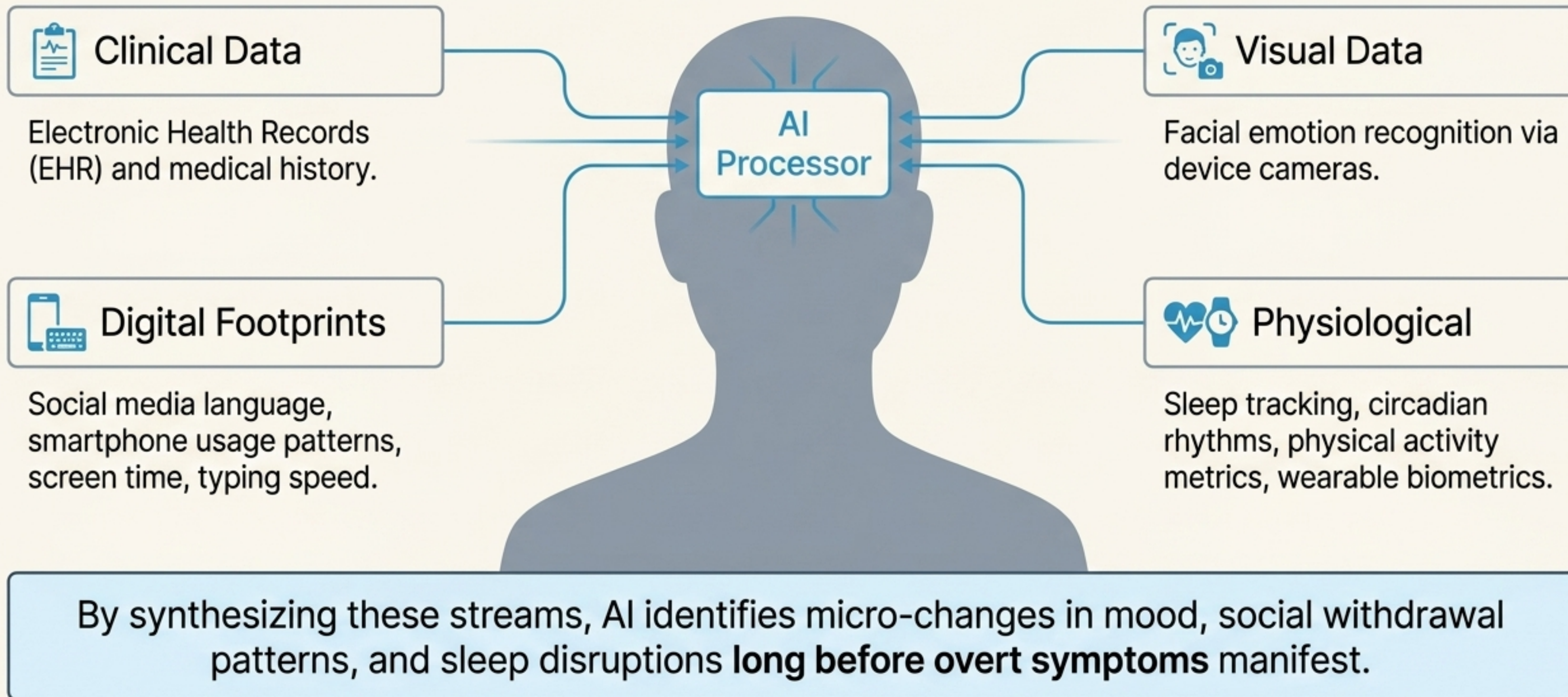
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Decoding the Core Technologies

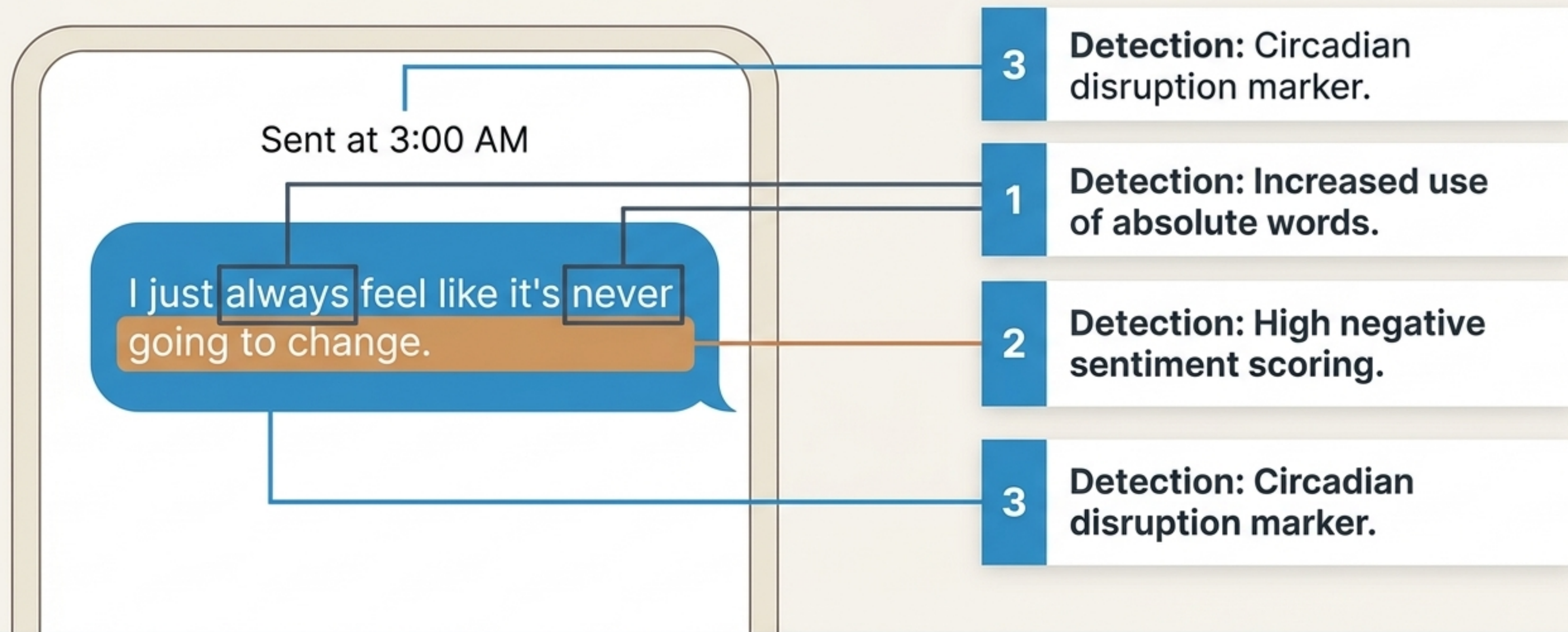


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The Anatomy of a Digital Phenotype

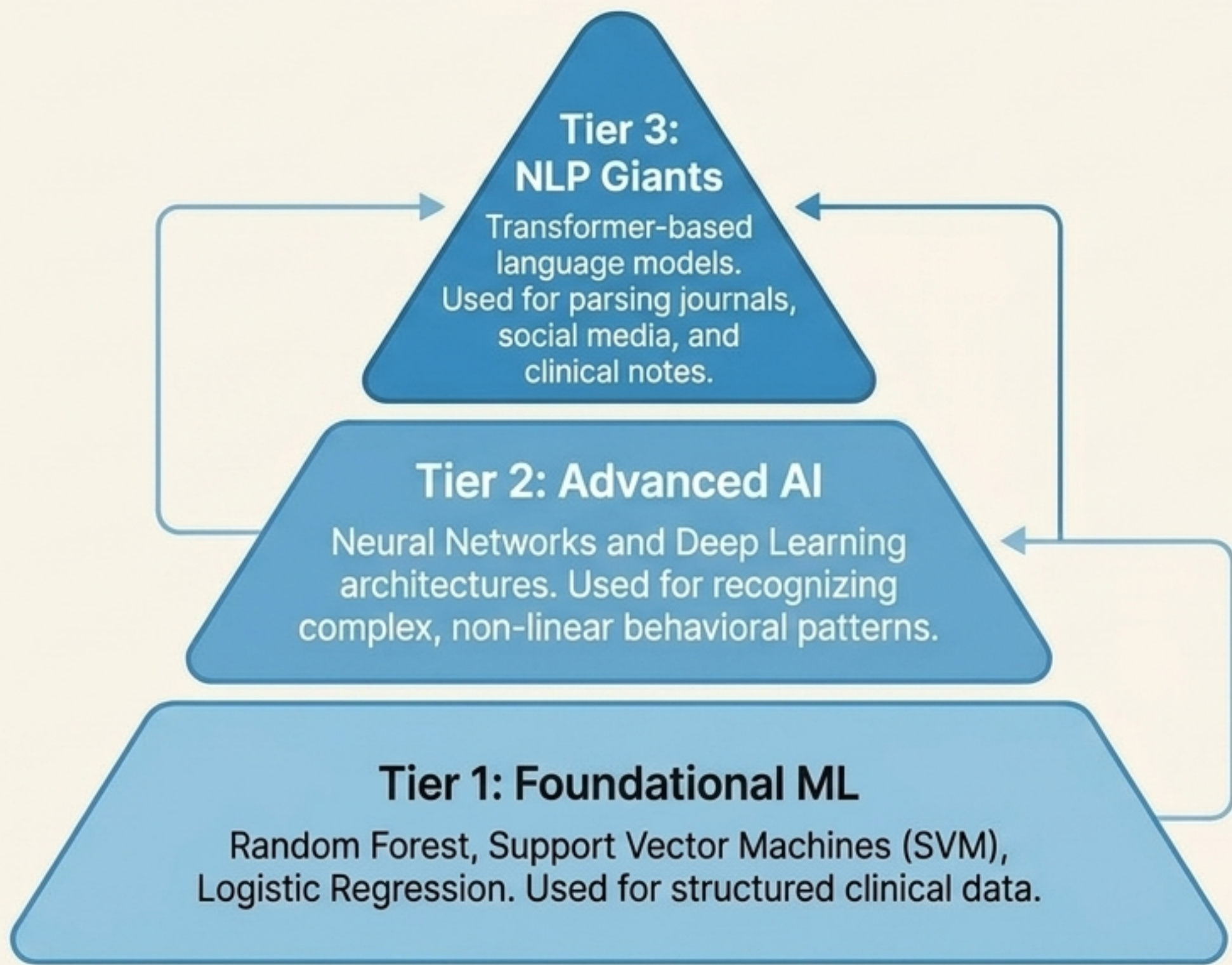


Translating the Invisible Language of Distress



NLP models, including Transformer-based LLMs, bypass conscious masking by analyzing the structure and syntax of communication, not just the overt meaning.

The Engine Behind the Predictions



Performance Metrics Dashboard



Accuracy Rate: 80% to 95% across multiple peer-reviewed studies.

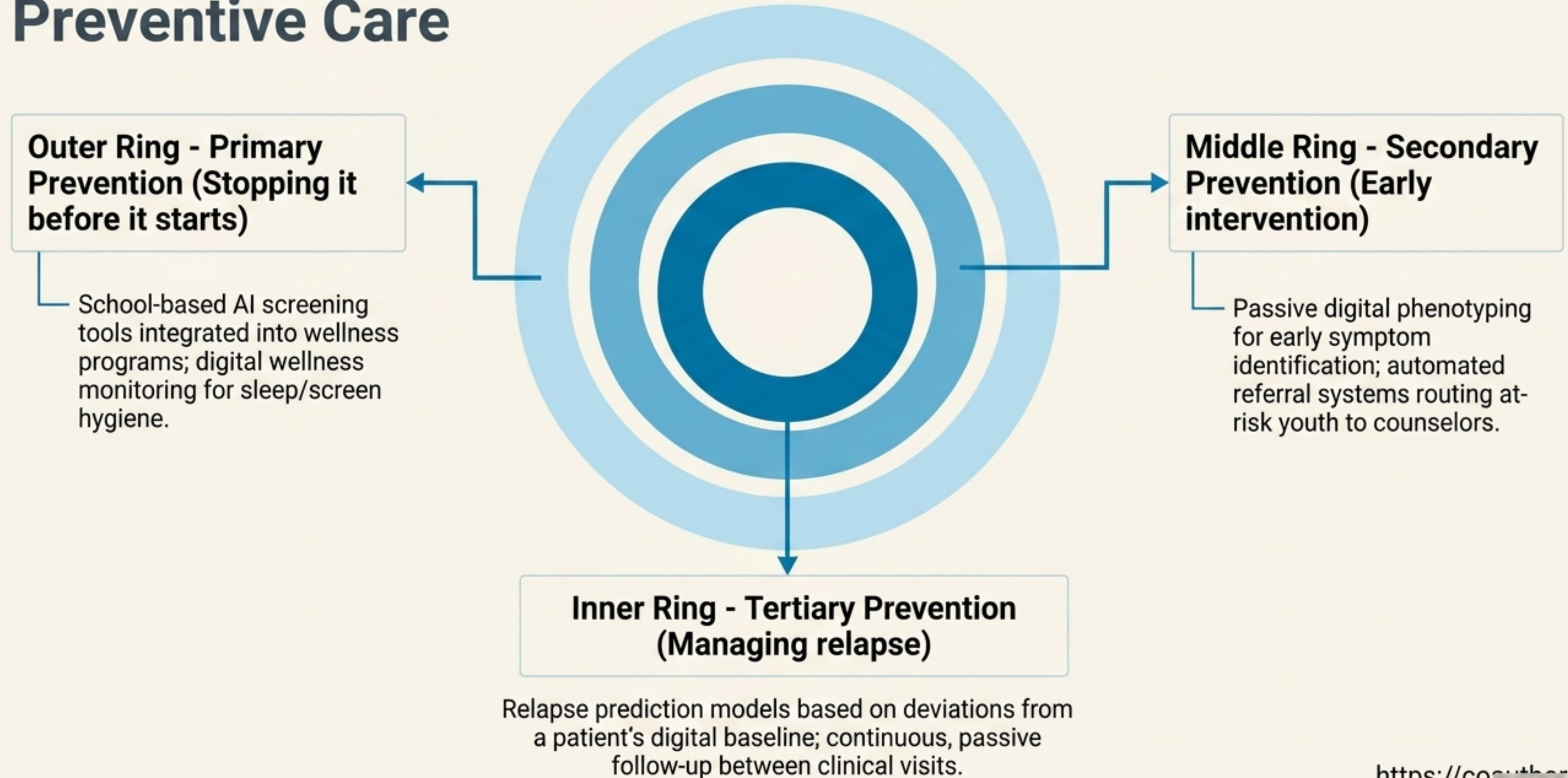


Sensitivity Profile: Exceptional at catching high-risk individuals who evade traditional screening.



Caveat: Performance is strictly dependent on dataset quality, diversity, and rigorous external validation.

A Multi-Tiered Approach to Preventive Care



Transforming the Clinical Landscape

Clinical Advantages for Providers

Reduces clinician workload by automating preliminary assessments.

Enables data-driven, highly personalized therapeutic interventions.

Dramatically improves health equity by providing insights for geographically isolated/rural adolescents.

Expected Patient Outcomes

Facilitates earlier, less invasive clinical interventions.

Measurable reduction in severe suicide attempts.

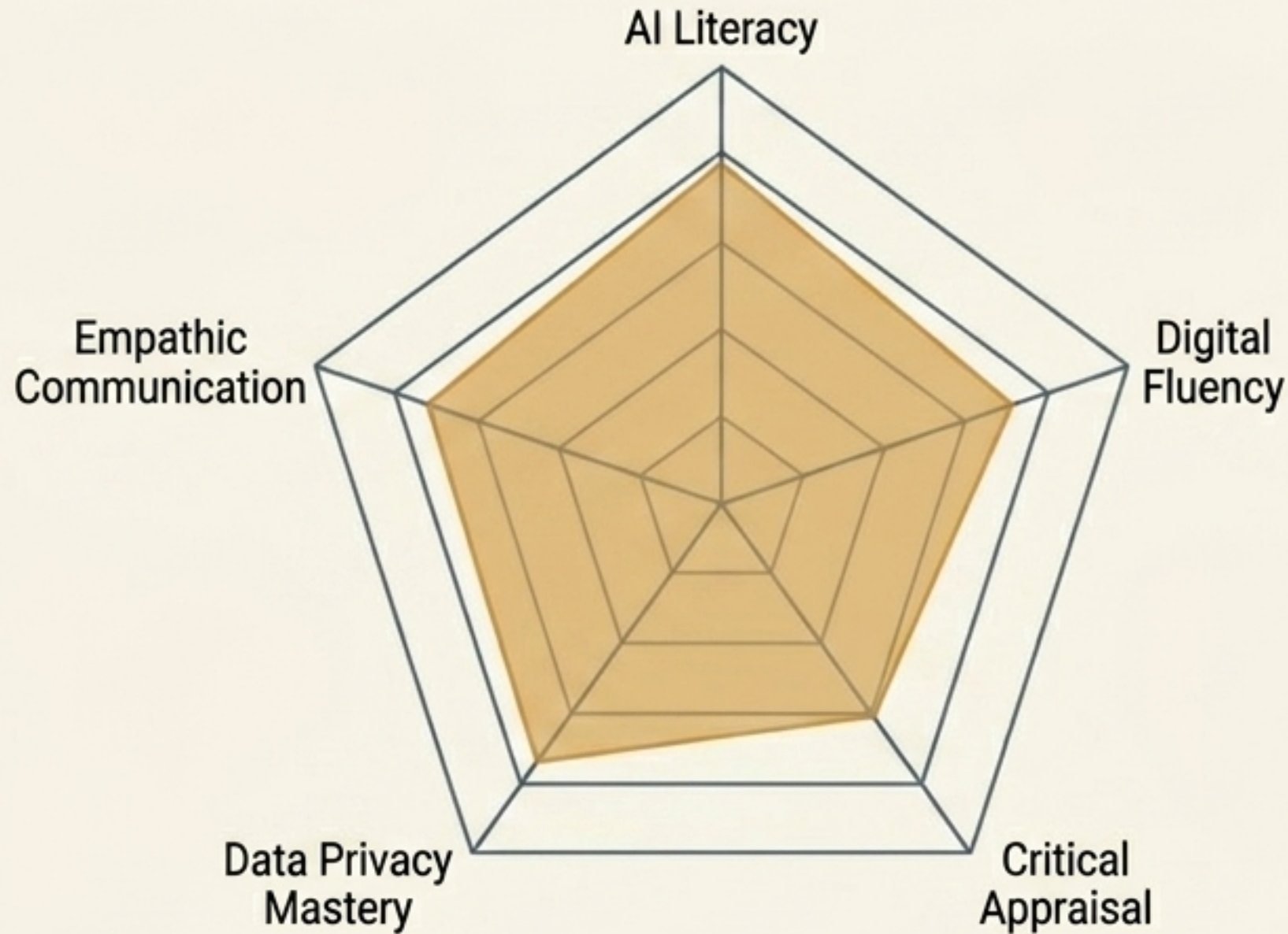
Superior treatment adherence driven by continuous digital engagement.

Navigating the Ethical Minefield



Critical Context: Obtaining true informed consent for background digital monitoring from minors remains a profound legal and ethical challenge.

The Nurse of the Future Competency Radar



AI Literacy

Understanding how algorithms function and where they fail.

Digital Fluency

Navigating complex digital health platforms.

Critical Appraisal

Validating AI outputs using clinical intuition.

Data Privacy Mastery

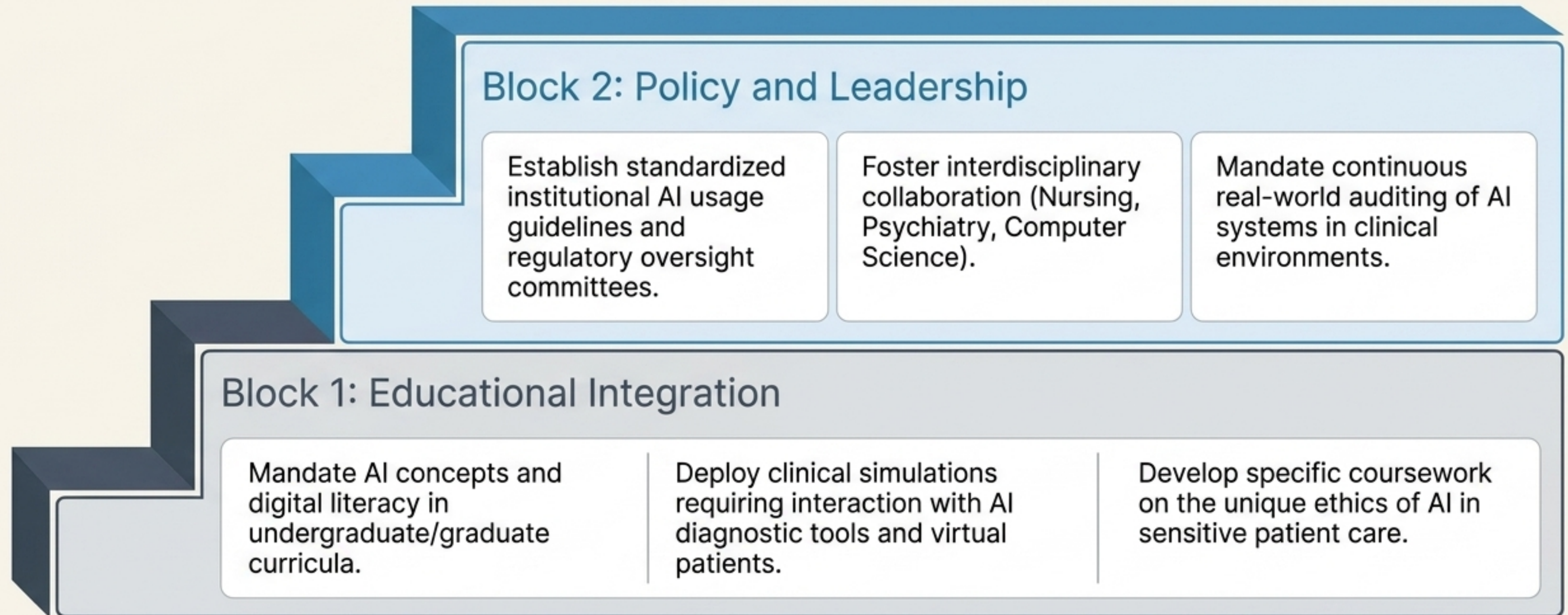
Enforcing digital confidentiality protocols.

Empathic Communication

Translating cold AI alerts into warm, therapeutic care.

Key Role Definition: The nurse acts as the crucial translator—interpreting AI-generated risk alerts, educating families, and leading rapid crisis de-escalation when algorithms flag immediate danger.

Preparing the Next Generation of Caregivers



The Synergy Matrix: Augmentation, Not Automation

Automation: What AI Does Best

Tireless Pattern Recognition

24/7 Passive Background Monitoring

Real-time Risk Scoring & Triage

Massive Data Synthesis

Augmentation: What Nurses Do Best

Contextualizing Alerts within Patient History

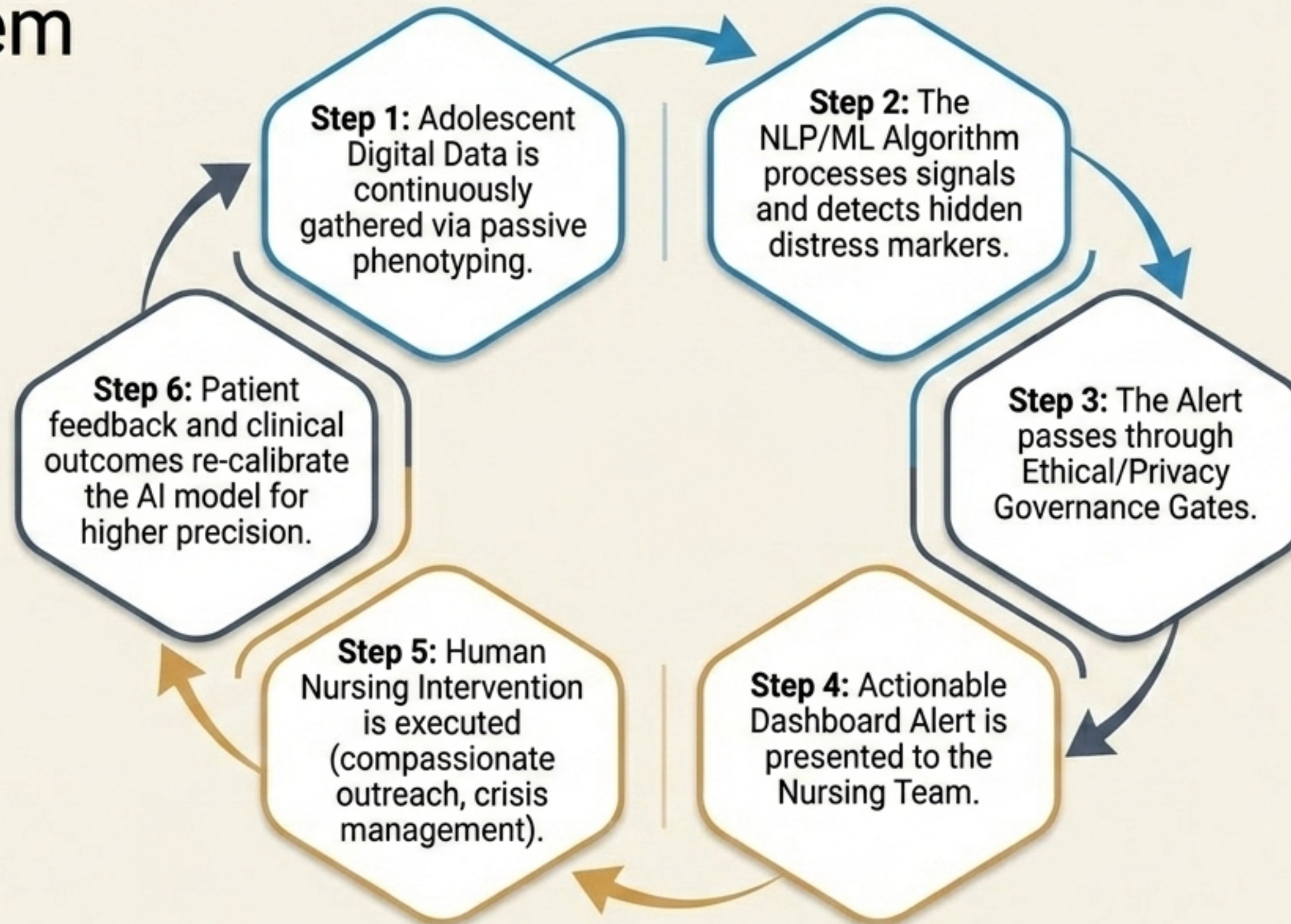
Empathetic Communication & Trust Building

Crisis De-escalation

Nuanced Ethical Judgment

Core Message: AI provides the alert; the human provides the intervention.

Synthesis: The AI-Enhanced Care Ecosystem



The Frontier of Digital Psychiatry

