

The Disease Before the Disease

Absurd Health Institute · Hypothesis and mechanistic perspective

Central hypothesis

Clinical thresholds are useful but can hide slow trajectories toward dysfunction. The provocative hypothesis is that some disease transitions are preceded by slower recovery, changing variability and altered coordination among signals—detectable before a diagnostic threshold is crossed.

The biological route

Complex systems nearing certain tipping points may show prolonged relaxation time after perturbation, sometimes termed critical slowing down. Longitudinal blood-marker research has examined loss of resilience with age. In physiology, the question is whether these abstract dynamic signatures generalize to clearly defined disease endpoints with acceptable false-positive rates.

An illustrative scenario

A person's recovery from minor physiological perturbations may become slower over time even while average measurements remain within accepted ranges. If that slowing reliably precedes a specific clinical endpoint, it could add value. If it simply reflects age, medications, sleep loss or sensor artifacts without independent prediction, the apparent early warning is not clinically useful. The model must count false alarms as seriously as true positives.

Alternative explanations and limits

Not every disease emerges through a smooth critical transition. Trauma, embolism and infection can begin abruptly, and noisy wearable data often reflect ordinary activity or device artifacts. A system-wide “pre-disease” label could cause anxiety and overtesting if not carefully validated.

What would change the conclusion?

Prospective blinded analyses should predefine endpoints and test whether trend-based warnings outperform conventional predictors in independent populations. Poor calibration or high false alarms would undermine practical usefulness even if a statistically significant signal existed.

The distinctive prediction

Early warning only becomes clinically meaningful with adequate calibration and actionable lead time. A predictor that flags too many healthy people, or provides no useful intervention, may cause more harm than benefit.

Clinical interpretation

The paper supports careful research on longitudinal monitoring, but no present app should claim it can reliably predict disease years in advance without external clinical validation.

Selected scientific reading

Contextual background, not direct validation of the proposed hypothesis.

Pyrkov TV et al. Longitudinal analysis of blood markers reveals progressive loss of resilience and predicts human lifespan limit. Nat Commun. 2021.

<https://www.nature.com/articles/s41467-021-23014-1>

Editorial note: Original theoretical perspective, not an original clinical study, validated diagnosis, or treatment protocol.