

LHINOS x Cambridge Psychometrics Centre

Phase 1 - Measurement Architecture & Psychometric Readiness Review

Phase 1 objective: establish what LHINOS should measure, what can already be interpreted defensibly, and what must be redesigned before formal validation.

1. Purpose

LHINOS currently contains an Assessment, a multidimensional Life Map, dynamic Life State variables and a longitudinal decision/outcome framework. Phase 1 is not intended to validate the complete system. It is intended to define a scientifically defensible measurement architecture.

2. Starting position

LHINOS deliberately assumes that current product dimensions, questions and scores may require revision. No construct is protected from scientific criticism merely because it already exists in the product. The desired outcome is expert challenge, not endorsement.

3. Proposed workstreams

A. Construct Map

Classify each proposed dimension as an established construct, behavioural indicator, temporary state, contextual variable, product-specific concept or narrative interpretation. Define the appropriate measurement approach and principal methodological risks.

B. Item Audit

Review current assessment questions for clarity, construct relevance, ambiguity, response bias, sensitivity and whether an established validated instrument would be preferable.

C. Scoring Review

Examine aggregation logic, weighting, individual-level interpretability, thresholds, uncertainty and longitudinal change. Identify scores that are conceptually defensible, provisional, unsupported or inappropriate.

D. Life Map Measurement Architecture

Separate psychometric measures from product-state variables, behavioural observations and narrative interpretation.

E. Life State & Longitudinal Change

Identify which variables should be stable, which may fluctuate and how meaningful change can be distinguished from measurement noise.

F. Life Decision Improvement

Determine whether this should remain a framework or be decomposed into decision clarity, information sufficiency, alternatives considered, confidence calibration, ownership, action, outcome and retrospective learning.

4. Requested Phase-1 deliverables

- LHINOS Construct Map V1

- LHINOS Item Audit V1
- LHINOS Scoring & Interpretation Review V1
- Measurement Risk Register
- Empirical Validation Roadmap

5. Validation roadmap requirements

Cambridge would be asked to recommend the empirical development path, including sample design, item-development procedures, cognitive interviews, pilot testing, factor-analytic strategy, reliability, test-retest analysis, construct and criterion-related validation, IRT where appropriate, measurement invariance, Differential Item Functioning, norming, longitudinal measurement and multilingual adaptation.

6. Explicit non-objectives

- Claim that LHINOS increases Human Intelligence.
- Validate overall LHINOS effectiveness.
- Conduct clinical assessment or diagnosis.
- Establish causal product effects.
- Certify or endorse LHINOS.

7. Phase 2 and Phase 3

Phase 2 - Empirical Development

Subject to Phase-1 findings: item refinement, cognitive testing, pilot sample collection, scale development, factor analysis, IRT where appropriate, reliability analysis and preliminary scoring rules.

Phase 3 - Validation and International Adaptation

Independent validation samples, test-retest properties, cross-language equivalence, measurement invariance, Differential Item Functioning, norming and longitudinal sensitivity to change.

8. Data and IP boundaries

LHINOS pre-existing software, product architecture and proprietary system logic remain LHINOS Background IP. Cambridge pre-existing methods and tools remain Cambridge Background IP. Rights relating to newly authored items, scales, algorithms, scoring systems and validation materials should be agreed before substantive development begins.

Phase 1 should not require source-code access or unrestricted access to user data. The review can begin from a structured inventory of constructs, items, response formats, scores, interpretations and intended use.

9. Materials LHINOS can provide

- Scientific Foundation Paper
- System Overview
- Assessment Inventory linking Construct → Item → Response → Score → Interpretation → Recommendation → Outcome
- Current Life Map and Life State definitions
- Known limitations and current product interpretations

10. Requested commercial response

LHINOS would ask the Psychometrics Centre to propose the recommended Phase-1 methodology, required input materials, experts involved, deliverables, project structure, commercial terms and options for subsequent empirical validation.

11. Success criterion

Phase 1 succeeds if LHINOS knows, with substantially greater scientific precision, what it should measure, what it should stop pretending to measure, and exactly how the remaining instruments must be validated.