

— A WORKING TALK — NOT A FORECAST

Can *AI* write your psychotherapist's notes?

How *evidence-based psychotherapy*, quality assurance, and ambient listening are quietly reshaping the way mental health care is recorded, supervised, and improved.



SESSION · 50 MIN · TRANSCRIPT READY

Ronan *Zimmermann*

Psychotherapy process researcher — bringing tools that work into clinical practice

MHIRA
2026

FOR THE

Pint of Science Festival

BASEL · MAY 2026

ROADMAP FOR THE TALK

The session is the *black box*.

Psychotherapy works, and its *active ingredient* is human interaction. What happens between therapist and patient rarely leaves the room — this talk traces why, and what is beginning to change.

01

Psychotherapy is an *effective* treatment for mental disorders.

02

Its active ingredient is **human interaction** — a trained, situational craft.

03

Documentation preserves only a fraction of what the session contains.

04

Ambient listening can make the conversation partially observable — therapists are beginning to open the box.

05

MHIRA, the platform I am working on, extends evidence-based assessment with *clinician-approved* ambient listening.

— THE BASE CASE

The *effectiveness* of psychotherapy.

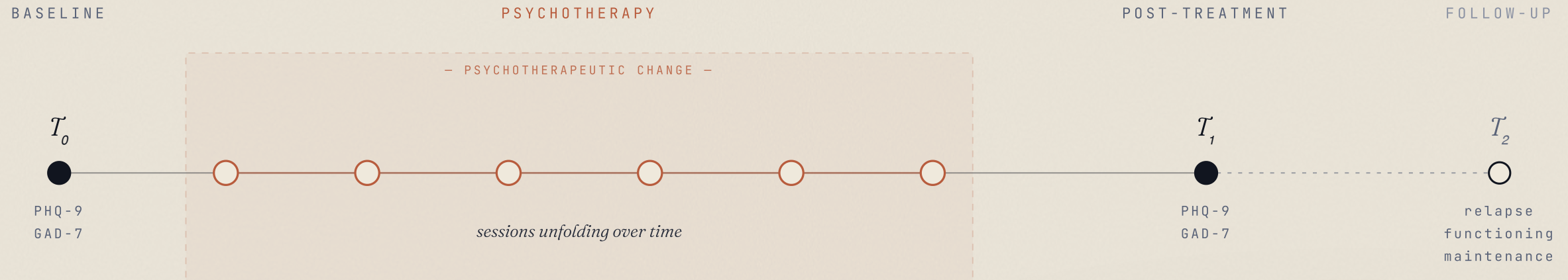
Average effect of psychological treatment vs. an inactive control, across *12 mental health problems*. Larger bar = stronger effect.

Harrer, M. et al. (2025) — Effectiveness of Psychotherapy: Synthesis of a “Meta-Analytic Research Domain” Across World Regions and 12 Mental Health Problems. *Psychological Bulletin*, 151(5), 600–667.

1,029 RANDOMIZED TRIALS · 85,952 PATIENTS · HEDGES' G · POST-TREATMENT VS. INACTIVE CONTROL · DOI: 10.1037/BUL0000465

— DOES PSYCHOTHERAPY WORK?

Outcome research established that *psychotherapy works*.

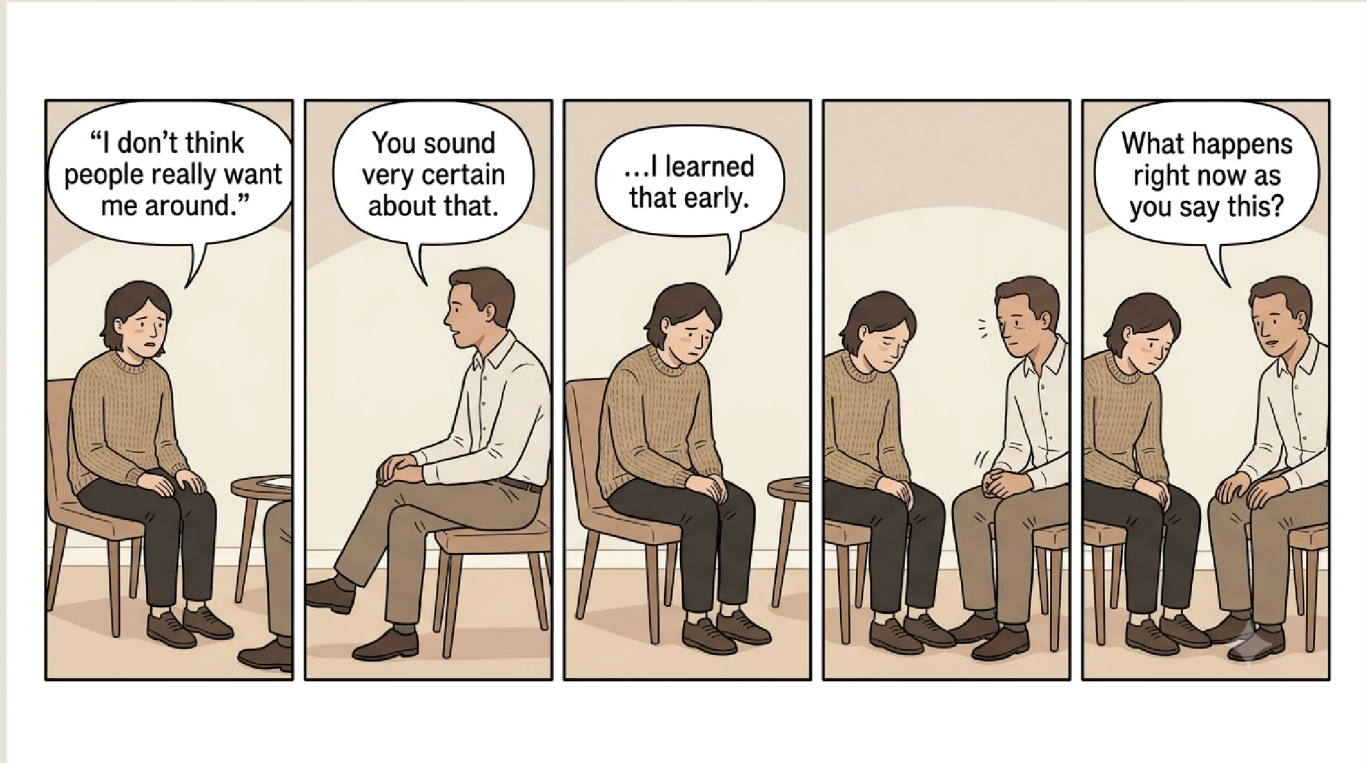


Outcome research demonstrated that psychotherapy produces *reliable clinical change* across disorders and treatment models.

This answered the question: *Does psychotherapy work?*

INSIDE THE CONSULTING ROOM

Psychotherapy unfolds through sequential *interaction* over time.



PATIENT PROCESSES

emotion
memory
expectation

THERAPIST PROCESSES

attention
reflection
intervention choice

T₁ ----- interaction unfolding, turn by turn ----- T₅

INTERACTION PROCESSES

turn-taking

timing

silence

alliance

rupture / repair

Process-outcome research identifies relational, therapist, and patient processes associated with therapeutic outcomes.

KAZDIN 2007 · GÓMEZ PENEDO & FLÜCKIGER 2026

— INSIDE THE CRAFT

How do therapists *know what to do*?

Therapists learn theories, frameworks, techniques, and skills — then apply them in conversations that *can't be fully scripted*.

— WHAT THEY KNOW

- *theories of change*
- *clinical frameworks*
- *techniques & skills*
- *training for real-time interaction*

FORMAL KNOWLEDGE → ADAPTIVE PRACTICE

— WHAT IT TAKES

- postgraduate psychotherapy training, often 4–6 years
- **supervision**
- self-experience / personal therapy
- specialist seminars and method training
- continued learning after qualification
- training costs often around CHF 35,000–90,000+

SERIOUS INVESTMENT

— BEFORE & AFTER EACH SESSION

- *reviewing the previous session*
- *case formulation*
- *diagnostic hypotheses*
- *treatment goals*
- *treatment approaches & guidelines*
- *selecting possible interventions*
- *anticipating risks or ruptures*
- *preparing next steps*
- *reflecting after difficult moments*
- *supervision when needed*

CLINICAL REASONING AROUND THE LIVE ENCOUNTER

— ON TOP OF THAT

- documentation
- progress notes
- treatment reports
- insurance justification
- reimbursement coding
- scheduling & coordination
- referrals
- emails & follow-up

COMPLEX HUMAN INTERACTION · TRANSLATED INTO HEALTHCARE SYSTEMS

— ENTR'ACTE —

Cheers!



WHAT THE RECORD HOLDS

Psychotherapy sessions contain more information than *documentation* can preserve.



COMPRESSION
----->



Clinicians continuously filter and compress complex therapeutic interactions under conditions of limited time and imperfect memory.

— PRESSURES ON THE RECORD

Why *richer persistence* increasingly matters.

■ CLINICAL & SUPERVISORY NEEDS

Supervision & training



- reviewing interventions
- alliance ruptures and missed opportunities
- formulation development across sessions
- reflective practice
- continuity between supervisor and supervisee

Longitudinal understanding

- recurring themes over time
- trajectories instead of isolated sessions
- subtle change processes
- evolving risk patterns

■ INSTITUTIONAL & SYSTEMIC PRESSURES

Accountability

- suicidality documentation
- treatment continuation justification
- interdisciplinary coordination
- quality assurance requirements
- reimbursement structures
- evidence-based practice documentation

— SWISS ANORDNUNGSMODELL, 2022

Resource pressure

- long waiting lists
- increasing administrative burden
- limited clinician time
- pressure for efficiency
- more documentation with less available time

Important therapeutic processes increasingly need to remain observable across time.

— AMBIENT LISTENING SYSTEMS

Psychotherapy interaction becomes *observable* in clinical practice.

01

AUDIO → TEXT

Speech-to-text

Sessions can become text.



Spoken interaction can now be transcribed with sufficient quality for clinical workflows.

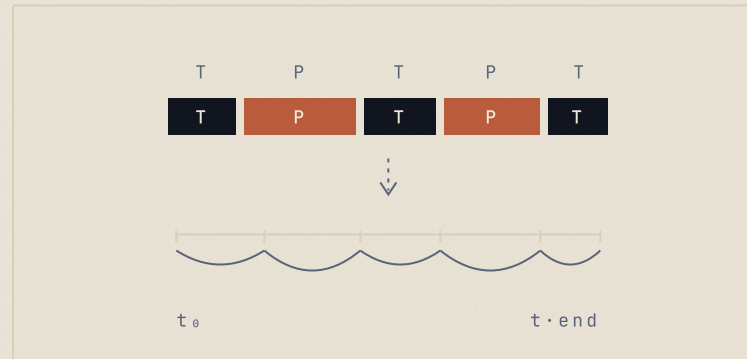
- AUTOMATIC TRANSCRIPTION
- MULTILINGUAL SPEECH RECOGNITION
- NEAR REAL-TIME CONVERSION

02

WHO SAID WHAT

Diarisation

Interaction structure becomes visible.



Speaker attribution preserves who said what and when.

- TURN-TAKING
- SPEAKER SEPARATION
- CONVERSATIONAL STRUCTURE

03

TEXT → STRUCTURE

Large language models

Information can be selectively structured.



Language models can assist in filtering, organising, and presenting clinically relevant information.

- SUMMARISATION
- THEMATIC EXTRACTION
- LONGITUDINAL RETRIEVAL

Together, these technologies **unlock information access** to psychotherapeutic interaction in clinical practice.

— AT THE THRESHOLD

Therapists are beginning to *open the box*.

■ WHY CLINICIANS ARE INTERESTED

A quiet relief — and a practical curiosity.

- less evening documentation
- reduced reconstructive memory work
- continuity across sessions
- support under increasing workload
- richer supervision material
- more time and attention for patients
- longitudinal retrieval of therapeutic processes



ALREADY ENTERING HEALTHCARE
WORKFLOWS
MULTIPLE PROVIDERS AND
STARTUPS DEPLOYING

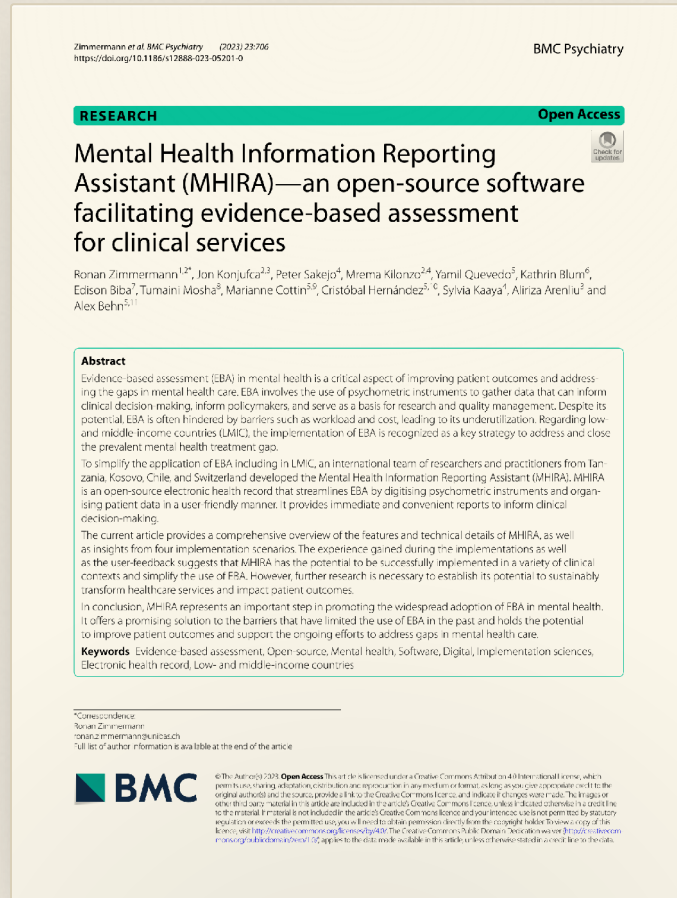
■ WHY CLINICIANS HESITATE

Thoughtful caution.

- intimate conversations become persistent
- uncertainty around data protection
- fear of surveillance or evaluation
- uncertainty about AI-generated interpretations
- changing therapeutic dynamics
- concern about over-formalisation
- unclear long-term implications

WHERE MHIRA CAME FROM

MHIRA began with *evidence-based assessment*.



ZIMMERMANN ET AL. · BMC PSYCHIATRY ·
2023
doi.org/10.1186/s12888-023-05201-0

ORIGINS

MHIRA was initially developed as a platform for *longitudinal mental health assessment* and clinical continuity.

- EVIDENCE-BASED ASSESSMENT
- PSYCHOMETRIC INSTRUMENTS
- LONGITUDINAL MONITORING
- QUALITY MANAGEMENT

DEVELOPMENT

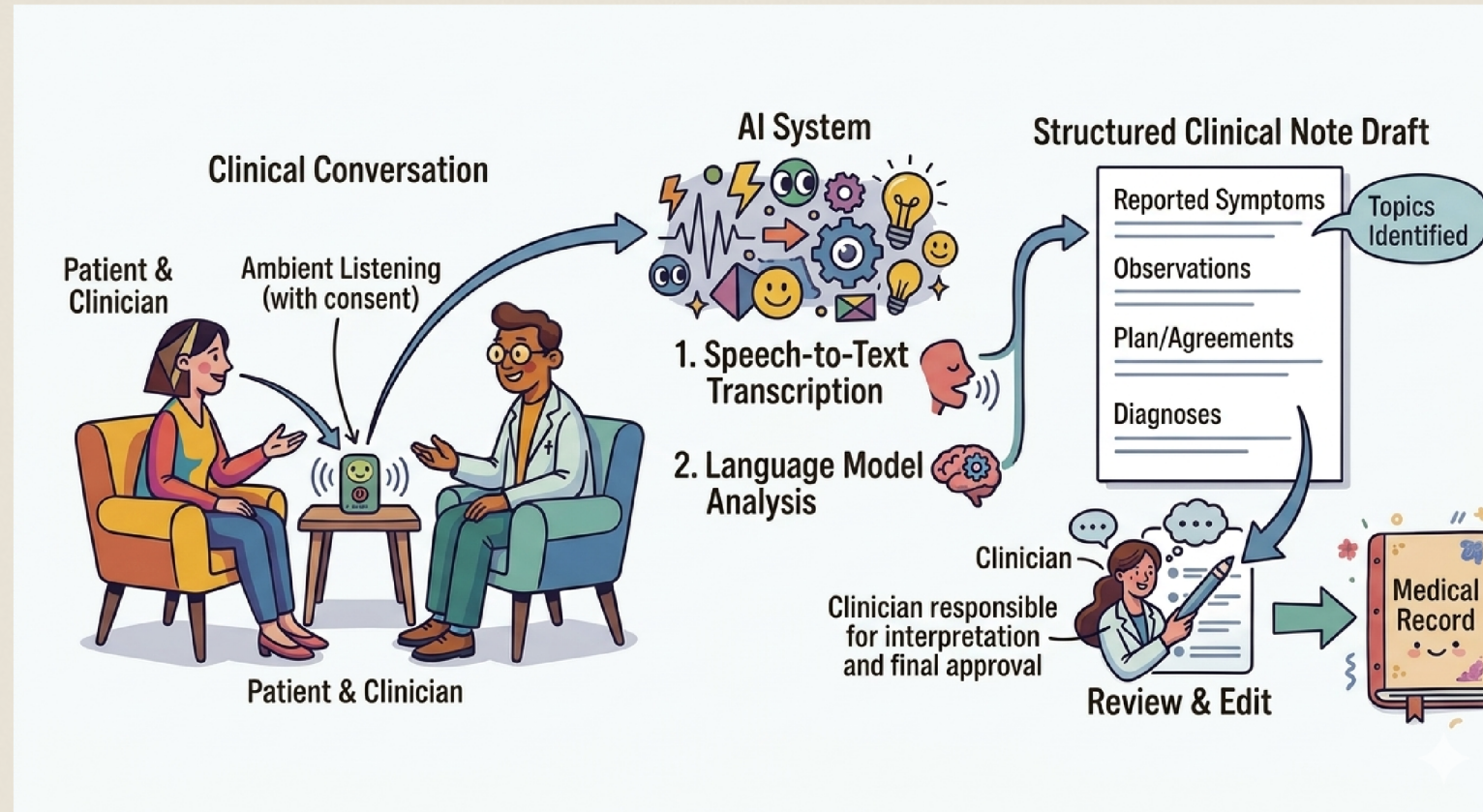
- Fondation Botnar supported
- developed across multiple countries
- designed for real-world clinical services

LATER EXTENSION

Ambient listening extended this persistence model into *psychotherapy interaction* itself.

MHIRA emerged from longitudinal mental health assessment before extending into ambient listening and structured psychotherapy documentation.

CLINICIAN-APPROVED PERSISTENCE

MHIRA: ambient listening under *clinical control*.

MHIRA produces *structured drafts and reports* that remain under clinician review and approval.

Designed for supervision, accountability, continuity, and evidence-based assessment workflows.

DIFFERENT REPORTS FOR DIFFERENT NEEDS

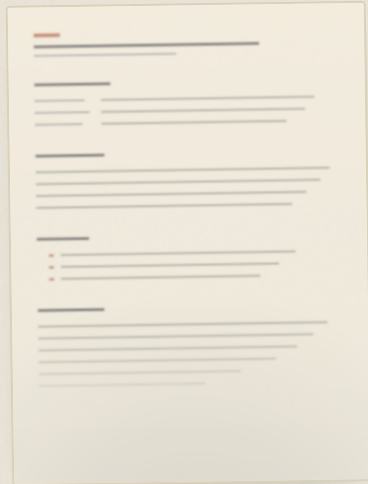
One session, multiple *clinical representations*.

Different clinical tasks require different forms of persistence.

01 · INTAKE

Initial formulation

presenting problems · history · goals · context



02 · SESSION NOTE

Continuity across sessions

interventions · themes · agreements · progress



03 · SUPERVISION

Reflective clinical practice

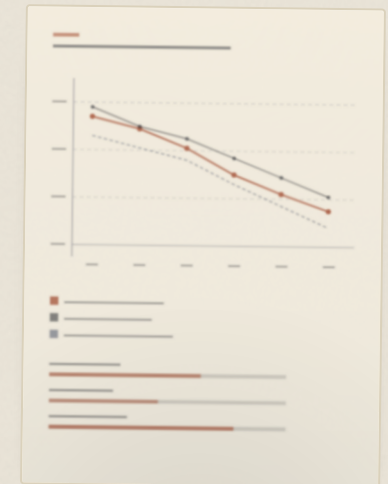
intervention review · alliance · difficult moments · trainees



04 · ASSESSMENT

Processes over time

recurring themes · trajectories · symptom development



*The same therapeutic interaction can support **multiple clinically meaningful perspectives**.*

— CLOSING REMARKS

Thank you.

If this opened a question rather than closing one, that was the point. The *references, slides, and a written version of this talk* live on the MHIRA research page — along with the work the talk draws from.

— READ THE TALK · SLIDES · REFERENCES

The full write-up and slide deck for tonight's talk.

<https://mhira.app/research/ambient-ai-psychotherapy-notes>

Pint of Science · Basel · The Future of Medicine: What Comes Next?

— GET IN TOUCH

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